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ABSTRACT

This paper addresses societal transformations and higher education's response to these changes and argues that a much larger and deeper change is occurring which should be examined within the context of a paradigm shift. The paper begins with a brief review of the theoretical literature on paradigms; then it demonstrates the use of these constructs in a study of the change process at a land-grant research university (University of Minnesota). Next, the paper enlarges the scope to briefly examine the evolution of American higher education and to provide a sketch of the dominant characteristics of the current American higher education paradigm, based on entrepreneurial-populist principles and ways of thought. The case study demonstrates the power of metaphor, exemplars, and myths in maintaining and even building new paradigms. The current paradigm of "managed populism" is expected to change to one with greater emphasis on quality. Leaders in higher education are urged to attempt to help shape these changes through: (1) recognizing and building on the larger forces at work, (2) utilizing five key strategies (i.e., focus on the customer, demand quality, build from collaboration, utilize technology to the fullest, and recognize the power of accountability measures), and (3) working on characteristics with the most salience for the emerging paradigm. The paper concludes with the presentation of a framework for examining the approaching, inevitable paradigm shift. (Contains 65 references.) (GLR)

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AN ANALYSIS OF THE PARADIGMATIC EVOLUTION OF U.S. HIGHER EDUCATION AND IMPLICATIONS FOR THE YEAR 2000

By
Hasan Simsek
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AN ANALYSIS OF THE PARADIGMATIC EVOLUTION OF U.S. HIGHER EDUCATION AND IMPLICATIONS FOR THE YEAR 2000[1]

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Introduction

Our entire globe and our entire way of living is undergoing a radical transformation. Alvin Toffler calls it a "powershift" (Toffler, 1990); the Naisbitt Group describes it as "Megatrends 2000" (Naisbitt and Aburdene, 1990); Robert Reich refers to it in his "Work of Nations" (Reich, 1991); and David Halberstam looks toward the "next century" as being fundamentally different (Halberstam, 1991).

Tensions felt today by higher education are manifestations of these larger societal transformations, with colleges and universities struggling to respond to these challenges. For example, projects are underway to address cost containment. Institutions are seriously pursuing the establishment of total quality management (TQM). Some institutions are measuring educational outcomes. Most institutions are developing programs to serve increasingly diverse populations. Nearly every institution has programs underway to address the on-going telecommunications and computer revolution. American higher education has been and hopefully will continue to be the envy of the world.

Yet today we hear with increasing frequency and growing emotion serious dissatisfaction expressed about American higher education. For example in 1992 there has been a spate of stories in mass media outlets (e.g., Boston Globe, Chicago Tribune, Forbes, Time, and even the TV tabloid Inside Edition) which draw similarly pessimistic conclusions about higher education's capacity to deal with its current challenges.

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[1]A short version of this chapter, titled "A Paradigm Transformation in the U.S. Higher Education: Analysis and Implications," was presented at the annual meeting of the Association For the Study of Higher Education, Mineapolis, MN: October 1992.

Legislators, students, parents, employers, and other stakeholders often imply that we are doing "too little, too late."

This paper puts these challenges and criticisms in the larger, historical context of a "paradigm shift." It is our contention that a much larger and deeper change for higher education is in the offing than is usually being discussed. We are convinced that, indeed, a paradigm shift in American higher education is imminent.

To build this case, we first review the theoretical literature on paradigms and present a model of paradigmatic change designed specifically for higher education by Simsek. We then demonstrate the use of this model in the case study of a change process at a land-grant research university. The use of this model is then expanded to examine historically the evolution of American higher education, paying particular attention to those periods where paradigm shifts occurred in higher education (e.g., late 19th century and mid 20th century). To assess the current situation we repeat the analysis in the context of todays' turbulent state-of-affairs, concluding that a paradigm shift for American higher education is in the making. The final section lays out a number of strategies for higher education institutions to consider in responding to the paradigm shift which is underway.

PARADIGM SHIFTS: A MODEL OF FUNDAMENTAL CHANGE

In a landmark study first published in 1962, Thomas Kuhn challenged the traditional understanding of scientific progress which emphasizes "accumulation" as the building blocks of scientific knowledge. According to Kuhn, the evolutionary process is always punctuated by a revolutionary phase in which our understanding of scientific activities and world views are altered. Thus historically the process is a succession of tradition-bound ["evolutionary"] periods punctuated by non-cumulative ["revolutionary"] breaks. These revolutionary breaks constitute what we call paradigm shifts.

In Kuhn's terms, paradigms are cognitive maps that guide human interaction with external reality. They are frames of reference through which interactions are put into a

coherent relationship so that they become meaningful (Kuhn, 1970; Brown, 1978; Pfeffer, 1981). Paradigms can also be called exemplars or models.

A paradigm has three essential characteristics: (1) it constitutes a way of looking at the world; (2) it is a way of doing things, and, (3) there is a social matrix or network of human beings to adopt and practice the paradigm (Pfeffer, 1982; Mohrman and Lawler, 1985). As we have each witnessed in our own disciplines, there is A way of looking at the world which defines the subject matter, resulting in particular theories and models which in turn provide an understanding of the world's phenomena.(Mohrman and Lawler, 1985, p. 152).

The way of doing things prescribes methods and instruments necessary to operate successfully within the paradigm. The paradigm is learned by doing and it thus provides exemplars which are frequently and repeatedly used. These exemplars tie and unify the various models, values, and methods together (Imershein, 1977a; Sterman, 1985; Mohrman and Lawler, 1985, p. 153). Similarly, the social matrix or network is important because interaction among its members solidifies and perpetuate the paradigm. Without human agents there can be no real paradigm. (Mohrman and Lawler, 1985, p. 151).

When the interaction between reality and our frames of reference become dysfunctional, they cause "anomalies." At certain times anomalies are only single inconsistencies, much like a tremor which causes some shaking but no damage. At other times anomalies are part of a larger "earthquake" or paradigm shift underway. Anamolies are most useful for they can bring to the fore both the fundamental assumptions of the old paradigm as well as a glimpse at the emerging paradigm (Imershein, 1977b).

Anomalies also play another important role. Nearly all of our problem solving and thinking is case-based (contextual). Major innovations are effective responses to accumulated problems (anomalies). Thus, major innovations flow from case-based

thinking rather than emerging from previously explored truths, as posited by traditional theories of change.[2]

ORGANIZATIONS AS PARADIGMS[3]

This section views organizations as paradigms by relating traditional organizational theory to the research on pardigm theory. We build a general paradigm model which we then use to analyze the historical development of higher education in this country. This model then aids us in laying out the challenges facing American higher education in the next century.

Organization as Paradigm: A Socially Constructed System of Reality

As Figure 1 shows, an organizational paradigm is composed of two dimensions: the metaphysical or background assumptions which are tacit and implicit (Domain 1) and the action guidelines, strategies and hypotheses of action (Domain 2), resulting from the background assumptions. Thus, formal organizations can be defined as a paradigm which specifies the metarules, propositions, and underlying assumptions that unnoticeably shape perceptions, procedures, and behaviors within an organization (Levy, 1986, p. 16).

According to Brown, a paradigm is both practical and cognitive. When applied to organizational settings, it provides guidelines for organizational roles. Thus, paradigms are essentially tacit, providing an "agreement" among members that enables the orderly enactment of roles. Scientific paradigms define the nature of productive theory and research; organizational paradigms play a similar role for organizational policies and operations (Brown, 1978, pp. 373-4).

Figure 1 about here

[2]This point created a major philosophical debate between Thomas Kuhn and Karl Popper in the early 1970s.
[3]This section is directly summarized from Simsek (1992).

Domain 1 is the lense through which we look at the world. Viewing things from a particualr perspective, theories of action are developed. In the paradigm literature including Kuhn's early work, it has been a problem to identify or define the metaphysical or background assumptions. To solve this important methodological problem, we view metapyhysical or background assumptions in the form of "a belief system." These belief systems result in "myths." It is common to think that scientific or other paradigms are "mythically" untouchable, that is their connection to reality has been lost. We discuss this point in more detail below.

Metaphors, on the other hand, are abbreviated descriptions of a particular belief system expressed as an image. As an expressive (language-related) form, metaphors facilitate communication of complicated shared assumptions by filtering and defining reality in a simple fashion. The use of metaphors in defining paradigms is also discussed in more detail below.

Domain 2 is a way of doing things, rather than a view point as domain 1. Domain 2 explains "strategies and hypotheses of action" (Hedberg, 1981, p. 12). Exemplars which assist in defining domain 2 are deduced from the belief system, or domain 1. These exemplars guide action in organizations. They are the "visible" part of the paradigm. They are examples of typical steps the organizational will take to accomplish its required tasks.

Myths[4]

In the organizational literature the myth is rarely given central focus and is often overlooked. Yet it offers some real power in paradigm research.

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[4] The authors are grateful to Dr. William Ammentorp of the Departunent of Educational Administration at the University of Minnesota for his intellectual contribution to the formation of the models on the basis of myths, metaphors and exemplars. He originally had developed a paradigm-based model explaining the dissemination of knowledge among professionals by putting the concepts of myths, metaphors and models into operation. For the use of his model in different situations, see Ammentorp and Johnson (1989a, 1989b), and, Dethomasis, Ammentorp and Fox (1991).

According to Campbell, a prominent figure in the study of mythology, myths are not distinct from reality. The creation of myths are time and place bound. They have a point of origin in the past, and they originate "in a certain society in a bounded field." Myths can also be viewed as experiences, for they create the ways in which people relate to the natural world, society or a particular culture (Campbell and Moyers, 1988). Thus, myths can frame and guide human interaction with surrounding social, cultural and psychological environments. Myths can also provide people "protection" from uncertainty and provide reconciliation between that which exists and that which does not really exist. Moreover, myths are inherited from one generation to another (Westerlund and Sjostrand, 1978, pp. 3-4)

Other reseachers see myths as having negative attributes. They are viewed as made-up stories which hinder progress. For example, Combs argued that:

> a myth is a widely held belief that is not true. But people behave in terms of their beliefs and the damage done to human thought and action by the myths people hold is incalculable. Myths are major factors behind inefficiency of institutions, breakdowns in communication, and failures to cope with many modern problems. In educational thinking and practice, they create a continuous barrier to innovation and change.
>
> (Combs, 1977, p. 2)

Combs does list five characteristics of myths which are useful in understanding them: Myths are shared across population, expressed in dichotomous language form, sometimes containing a germ of truth, justifying human behavior, and often have become institutionalized (Combs, 1977, p. 2). According to Combs, myths are nothing but *a form of widely held beliefs.*

Jonsson and Lundin, who also define myth as "a set of beliefs," take a more objective position. They do not view myths necessarily as good or bad, true or false (Jonsson and Lundin, 1977, p. 164).[5] Yet one dictionary defines myth as a"feeling that something is true..." (Collins English Dictionary). Myths provide a set of implicit

---

[5]The discussion on belief firmly excludes any form of religious and spiritual connotations.

assumptions about phenomena. They are influenced by a complex array of social, cultural and psychological factors. Yet what is the difference between myth and belief?

One critical distinction is the difference in scope and life-span of a myth and a belief. Myths are typically about the essence of human life, and they are inherited from generation to generation; whereas beliefs are characterized by shorter life-spans and represent many varieties of human conduct. Over time certain central beliefs can turn into myths. Thus, myths can be defined as *extended set(s) of beliefs, in other words, any particular set of long-lasting beliefs might turn into a mythical phenomenon* which later becomes quite resistant to change. Since myths are not apart from reality and human experience, they can be viewed as "a manifestation of symbolic images" or "containing a germ of truth" (Campbell and Moyers, 1988, p. 39; and Combs, 1977, p. 2)).

Thus myths as depicted in our paradigmatic model of organizations (see Figure 1), are forms of selectively collected and integrated pieces of knowledge that shape the underlying belief system in an organization. This belief system is:

* widely shared by the members of certain community,
* transmitted form generation to generation,
* deeply rooted in the history of that particular community,
* composed of a set of particular rules and principles that justify (or don't justify) human behavior,
* very powerful as often being institutionalized in the community, and composed of a set of implicit assumptions about reality derived from a form of knowledge embedded in it.

Thus, reframing Kuhn's concept of "metaphysical assumptions" or Imershein's equivalent concept of "background assumptions" in the form of "a belief system" provides some insights into ways of conducting paradigm research. The notion of belief systems provides a conceptual clarity to metaphysical or background assumptions, and grounds these terms so that they can be explored in organizational settings.[6]

---

[6]In this way, the researcher was able to design an interview question directly asking the respondents about "the belief system behind the Commitment to Focus," the strategic reorientation document that shifted the University of Minnesota's identity as an higher education institution. The message in the question was grasped easily by the respondents and the response rate was quite successful beyond anticipated (see Chapter 5 in Simsek [1992] for more information).

For the terms of this paper, a single organization (i.e., college or university) or a collection of like-organizations (i.e., the industry of higher education) is defined as a paradigm. At a particular time and place, a dominant world view organizes and directs the activities of the organization(s). This world view, frame of reference, or paradigm is defined by a dominant myth, a knowledge-based belief system and a set of exemplars which are concrete and observable. The theory of action and the knowledge based is in the background with the strategies and practices in the foreground. There is always a correspondence between what an organization does and what it believes in (Imershein, 1977a; Brown, 1978; Hedberg, 1981). This knowledge-based belief system guides organizational activities as well as defining, limiting or delimiting behaviors of individuals and groups in the organization (Imershein, 1977a, b; Brown, 1978; Sheldon, 1980; Jonsson and Lundin, 1977)

Metaphors

A second concept that can be effectively used in understanding the tacit background assumptions of a paradigm is the metaphor. The metaphor is more concrete, more precise than the myth.

"A metaphor is a figure of speech in which a term or a phrase with a literal meaning is applied to a different context in order to suggest a resemblance." (Sackmann, 1989, p. 465) Besides its transformative power as a language form, metaphors also denote a way of knowing: For example, scientists view the world metaphorically in developing their analytical frameworks (Morgan, 1980, p. 611). Lakoff and Johnson posit that vague concepts are restructured in terms of more concrete concepts that have clear meanings, understanding, and familiarity in our daily lives. Thus, through metaphor the unknown is explained by known experiences (Lakoff and Johnson, 1982, p. 112; reported in Sackmann, 1989, p. 465).

Morgan argued that "the creative potential of metaphor depends upon there being a degree of difference between the subjects involved in the metaphorical process" (Morgan, 1980, p. 611), with the metaphor being more concrete than the target phenomenon being described. In non-metaphorical selective comparisons, commonalities are emphasized, while differences are suppressed (Morgan, 1980, p. 611).

Metaphors transmit entire systems or domains of meaning, underemphasizing individual differences and isolated concepts or phenomena. They create a mental picture which substitutes for thousands of words in describing a situation. With their picture-like nature of transmitting a complete story using only one image, metaphors are powerful communication tools (Sackmann, 1989, p. 467-68).

Furthermore, metaphors transfer schema from one area to another. They filter and define reality in a simple fashion such as "Richard is a lion," "the brain is a computer," "capitalist economies are markets" (Sterman, 1985, p. 98), or "organizations are machines," "organizations are organisms," etc. (Morgan, 1986). Metaphors are very powerful in describing the most important features of a complex array of variables in a simple form, but they only provide part of a whole picture (Morgan, 1980; Sterman, 1985).

Metaphors are useful in the following ways to explain the tacit background assumptions of an organizational paradigm:

*to clarify the belief system in organization which emphasizes commonalities between the nature of organization and of the used metaphor,
*to draw an approximate visual picture of the organization in terms of the dominant strategic orientation guided by the underlying belief system,
*to provide somewhat detailed information about the organization by containing certain linguistic components, specifically adjectives and adverbs used in a metaphorical description.[7]

[7]All these points are supported by the data collected in an actual case, and discussed in chapter 5 in (Simsek, 1992). For examples of the use of adjectives and adverbs in metaphorical descriptions and for their high information content, also see Chapter 5 (Simsek, 1992).

Thus, metaphor in the model shown in Figure 1 refers to the short-hand description of a particular belief system or myth. It is an expressive (language-related) form that facilitates communication in understanding the tacit assumptions of a belief system.

Exemplars

According to Kuhn, examples or exemplars are the tool by which paradigms are "learned." For example, students do not learn theories by studying abstract rules and principles. Instead a theory (i.e., paradigm) is learned by studying concrete methods, models and exemplars. Each paradigm has a number of central examples on how to carry out research, consistent with the abstract principles of the paradigm. Students learn these concrete examples, and thus paradigms are learned by doing (Kuhn, 1970). Exemplars are so important in making a paradigm concrete and tangible that Imershein boldly stated, "no exemplars, no paradigms." (Imershein, 1977b, p. 43)

Exemplars in organizational settings are directly deduced from the organization's underlying belief system, and they guide organizational as well as individual action. They are the most visible part of any organizational paradigm. Organization members learn the dominant belief system of the organization through exposure to central exemplars, and practicing these normative rules in their daily lives. These exemplars are highly visible as a collection of typical organizational strategies and actions. (Hedberg, 1981, p. 12; Imershein, 1977b, p. 41)

Exploration of exemplars in organizational settings is fairly easy compared with tacit nature of the belief systems. "If the paradigm is already accepted, the exemplars will likely be those examples which are most often or most consistently cited by participants." (Imershein, 1977b, p. 42) Organizational paradigms penetrate the daily practices of organizational members. Perhaps the daily job-related routines are strongly tied to the underlying belief system through exemplars, for it is the one that "presently guides the

behavior of individuals at the same time that justifies their behavior to themselves" (Jonsson and Lundin, 1977, p. 163).

Social Matrix

The "glue" which brings together these various elements of the paradigm is the social interaction and communication among the members of the community under study. This community may be a formal organization or it could be an informal group held together by the paradigmatic characteristics noted above (e.g., a certain neighborhood community may have characteristics that are strong enough to define it as a paradigm). This interaction between people functioning within the paradigm, named the "social matrix," plays the important role of solidifying and perpetuating the paradigm (Mohrman and Lawler, 1985).

The social matrix also plays some very specific roles. For example, it defines the degree of diffusion of a newly enacted reality among the members of a particular community, that is membership into a new paradigm. Paradigm membership can be used to reliably identify the particular development phase of this paradigm. For example, (1) the inception period is usually characterized by an increasing number of practitioners beginning to attach to the new belief system; (2) this, in turn, helps the particular paradigm to diffuse more quickly (i.e., "the snowball effect"); (3) a normalcy period follows, characterized by the maximum membership a paradigm can attract, (4) paradigm decline is usually identified by a declining membership with an increasing number of practitioners either leaving or converting to an new/alternative paradigm (Sterman, 1985). This evolution of paradigms is explored more fully in the next section.

In paradigm research, the social matrix plays the same role that the informal organizational structure does in organizational research. Just as the organizational chart

does not tell the " full story" on how the organization actually operates, the social matrix provides essential insights into the status and development of a particular paradigm.

Internal/External Reality: The Hard-Core Environment

Although the study of organizations is a multi-faceted academic discipline, in general terms the discipline focuses on organizational structure, the internal operations of the organizational entity, and its interaction with the external environment. Typically the organization is represented as an organizational chart with some reference to the environment . Open systems theory focuses on the interaction of the organization with its environment and discusses the relative permeability of organizational boundaries. Other organizational frameworks focus on the roles which various people play, with both the formal and informal organzational chart being drawn. The policies, practices, and strategies of the organization are cataloged and analyzed.

This perspective on the organization results in an examination of the practical assumptions which drive the operation. For the purposes of this discussion we term this the "hard" or practical environment of the organization. Through this lense we see the organization as hard, solid, factual and concrete. It is through domain 2 that an abstract body of knowledge is translated into a view of internal and external realities.

In Figure 1, it is domain 2 which points to the external and internal organizational realities and how a particular paradigm translates an abstract body of knowledge into a workable reality. Each paradigm finds its background assumptions tested through exemplars (actions) in the domain 2. This is the day-to-day operation of the organization, its relations with its customers, suppliers, and other organizations in the same industry. Internally, it is the domain of experience for the members of organization as they accomplish their roles in accordance with rules, regulations, norms and expectations established in the organization, all framed by a particular paradigm or belief structure. These employees share a particular view of the world, of their jobs, of the function of their

organization as well as acceptable performance and a common language for communication.

An organizational paradigm constitutes a theory leading to implicit background assumptions.[8] Central exemplars and models drawn from these background assumptions lead to the strategies and actions of the organization. "Strategies are hypotheses, and actions test these hypotheses, verifying or falsifying the theory." Furthermore, "strategies are reformulated when actions fail to produce desired results" (Hedberg, 1981, p. 12). Inconsistencies between the prescriptions and expectations imposed by the dominant belief system and their actual outcomes arise from two different characteristics of the paradigm. In the first case, it may be due to misinterpretation of the belief system and an inappropriate strategy in the form of exemplar. This is corrected through "puzzle solving" revisions to the paradigm. In the second case, it may be due to the inadequacy of the paradigm belief system in explaining the particular case with puzzle solving resulting in continuous failures. The number of anomalies grows, and a paradigm shift is often warranted (we will return to this point later).

To further our inquiry into this domain of internal/extrenal organizational reality, it is important to examine the relationship between a single organization and its counterparts in the same industry. In classic organizational theory, individual organizations are taken as separate entities. Their relationships with the external environment is analyzed using the asumptions of the functionalist systems approach. Some scholars give precedence to environmental forces in determining the survivability of an organization; this perspective dominates the population-ecology approach (Hannan and Freeman, 1977; Freeman, 1982). Other organizational scientists argue that, although the external environment carries with it important constraints, any specific organization may engage in the development of

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[8]The intellectual background of the model concerning the interaction between the organization and the external environment in the Figure 1 was originally appeared in Hedberg and Jonsson (1977). This particular discussion took place in Hedberg (1981).

proactive strategies to change the environment, thereby enhancing the particular organization's survivability. Such strategies might include collaboration, mergers, acquisitions, or the uses of new technologies. This theory is termed the "resource dependence view of organizations" (Pfeffer and Salancik, 1978). The consistency theory, which represents a third proposal, emphasizes a fine-tuning between internal and external variables. "There is no one best way of organizing, [t]he appropriate form depends on the kind of task or environment with which one is dealing" (Morgan, 1986, p. 49). The best fit can only be achieved through a fine tuning of such internal variables as structure, strategy, technology, culture and management (Burns and Stalker, 1961; Woodward, 1965; Lawrence and Lorsch, 1967; Miles, 1980).

All three of these theories focus on the interaction between the organization and its environment. Implicit is the belief that if the organization is acting in concert with its environment, the organization will be able to sustain a desired strategic course. However, we feel that all of these approaches miss the dramatic leaps which can occur when new technologies are introduced. Such technologies leave no company within the industry (or the industry's paradigm) unaffected. A most dramatic example is the introduction of the electronic quartz watch which revolutionized the time-keeping industry. Paradigms "in-force" --- almost by definition -- imply that organizations should innovate gradually and not get outside of the paradigm. Thus a single organization which might usher in a new paradigm typically comes from outside the set of companies which comprise the current industrial paradigm.

Industry Knowledge-Base: The Soft Environment

Paradigm theory points us toward a second, equally important aspect of the organization: the industry's knowledge-base or the "soft" environment. This domain, shown in Figure 2, represents the tacit body of knowledge generated and accumulated over time. It is typically located outside the organization but has significant impact on the root paradigms of the

organization under study. A knowledge-base is essential for all systems. It is "a preexistent, socially constructed resource" that bears important implications for all organizations operating in a particular market (Toffler, 1991, p. 84).

Figure 2 about here

Each organization is a member of a particular sector or industry including organizations with similar functions (e.g. computer industry, higher education sector, telecommunication sector, fast-food industry, etc.). New ideas and methods resulting from purposeful or accidental learning by other organizations within the same sector are abstracted and grouped as root-paradigms. They add to the knowledge pool for this industry. This knowledge is both concrete (exemplary) and tacit (assumptive), implicit and explicit at the same time. Essentially, *it is a symbolic resource for all organizations.*

This point has led to a debate about the role which technology plays in shaping paradigms and causing their evolution. For example, Tushman and Romanelli (1985) argue that major shifts in the product class [market] may be caused by technology:

> Technology is a basic product class resource which changes systematically over time and is a major determinant in shaping the evolution of a product class. Case studies across a range of technologies find that technological progress constitutes an evolutionary system marked by long periods of incremental change punctuated by infrequent technological breakthroughs which lead, in turn, to the next period of incremental technological change (Tushman and Romanelli, 1985, p. 198).

The evolution of product class is a process through which a dominant design emerges out of *a synthesis of a large number of proven concepts* after substantial technological experimentation [emphasis added] (Tushman and Romanelli, 1985, p. 198). Each technological breakthrough such as the Model T Ford, the DC-3 airplane, or personal computers result in a new understanding of the world and thus alter both the "hard" and the "soft" environments of the organization (i.e., its paradigm)

Imershein reframed this argument to say that technology itself is not a cause for change, but it is the *knowledge* of technology that creates fundamental changes in organizations (1977a, p. 37). Regardless of one's position on this point, there is strong evidence that changes in the technology sphere lead to significant changes in organizational paradigms. As Figure 2 points out, it is this upper dimension that represents the body of knowledge accumulated over time. This tacit knowledge pool, located outside the organization, contains sets of structured knowledge groups and root-paradigms.

As a new technology creates a fundamental shift in the knowledge structure embracing a number of organizations, a revolutionary process unfolds in related organizations as others try to develop ways of converting themselves to the new knowledge-base. A new, dominant design within a product class that "seems to hold across industries" creates knowledge-driven cognitive shifts in the world views of organizational members. (Tushman and Romanelli, 1985, p. 198)

In this paradigm succession process, new and young organizations are the ones that are most able to create new paradigms in a particular industry. Kuhn argued that many new paradigms in the sciences were brought into the scene by young scholars who were often new to their area of study (Kuhn, 1972). In organizational contexts, similar observations have been made by organization scientists that in the evolution of product classes, new firms and firms from outside the industry are the strongest candidates for major innovations (Tushman and Romanelli, 1985, p. 200).

Reading the Model

To summarize, the organizational paradigm shown at the center of Figure 2 consists of organizational myths, metaphors,and exemplars. The relationship between the organization and the internal/external organizational realities is shown purposely by a continuous line, while the relationship with the industry-knowledge base is shown by a broken line. This is intended to convey that most of an organization's activity occurs

between the organization and its hard-core environment. The model is not intended to imply any deterministic or universal commonalities among organizations. Two organizations opertaing under similar paradigm belief systems might operate quite differently, or might start from similar conditions and end up with different characteristics. The determining factor is the synergy created by the interactions between paradigm specifics and individual members of the organization, for paradigms are adjusted to the needs of each particular user community (Mohrman and Lawler, 1985). Each organization is unique in its characteristics. Its "personality" is defined by the particular context in which it operates, its history, its successes and failures and its interpretation of external/internal realities. This constant interaction is shown by the continuous line.

The broken line between the organization paradigm and the industry knowledge-base conveys that the relationship is not constant or continuous. Depending upon the status of the dominant paradigm, organizations can be relatively closed to the industry knowledge-base. This typically happens during periods of "normalcy." However, when anomalies develop, accompanied by a general dissatisfaction and deterioration of performance, organizational members begin to look for alternative ways of doing things. They look more actively to the industry knowledge-base as well as exemplars and models from similar organizations. As these anomalies continue to mount, a crisis period can result for the paradigm. These successive periods of normalcy, anomalies, and crisis are discussed in detail in the next section.

ORGANIZATIONAL CHANGE AS A PARADIGM SHIFT

This section takes the organizational paradigm model described in the previous section and adds a temporal dimension, permitting us to trace the evolution of organizations and their paradigms (see Figure 3). Although Kuhn specified four steps in a paradigm shift, we have modified his work by hypothesizing a six step model: Normalcy period, anomalies,

crisis, selection (revolution), transition, and, finally another normalcy period emerges. These are shown at the bottom of Figure 3.

The Normalcy Period is characterized by gradual change with the organization making adaptations as necessary to continue to thrive. Typically, a particular paradigm is dominant and invisibly guides organizational activities, much like Adam Smith's invisible hand of the marketplace. There is a body of tacit organizational knowledge utilized in reference to these organizational activities. "Roles as well as the definition of 'problems', 'responsible opinion', 'leadership', and so on, are afforded by [this] dominant model" (Brown, 1978, p. 374).

According to Kuhn, during the normalcy period the basic activity in which scientists engage is puzzle solving. Similarly, during this period organizational leaders and practitioners are making gradual adjustments in response to unexpected changes occurring in and outside the organization. In this period, the metaphors, myths and exemplars are well known and taken for granted. They are not questioned even though there may be some inconsistencies occurring between expectations provided by the dominant myth and the reality occuring from the organizational actions taken (Sterman, 1985; Sheldon, 1980).

This is also a period in which a negotiated political order among the key interest groups prevails (Tushman and Romanelli, 1985, p. 201), as well an accepted dominant management style (Greiner, 1972). In the normalcy period, "more effective organizations will have a complementary set of senior management skills, a stable executive team, a reliance on sequential internal promotion patterns, and on incremental substantive change managed by middle and lower level management" (Tushman and Romanelli, 1985, p. 196).

Figure 3 about here

The Anomalies Period which follows comes about from unresolved or delayed issues (puzzles) or from sudden and unexpected changes occurring inside or outside of the organization. According to Miller and Friesen, anomalies most likely occur when an organization relies excessively on a particular strategic direction (Miller and Friesen, 1980). The first indicator of an anomalous situation is when "the dominant organizational myth can no longer produce convincing strategies" (Hedberg, 1981, p. 12) resulting in sustained low performance. According to Tushman and Romanelli, low performance, in turn, disrupts the negotiated order in the organization which triggers an organizational reorientation (Tushman and Romanelli, 1985, pp. 202-3). To move from normalcy to the anomalies period, organizational issues or puzzles must remain unresolved for a considerable period, resulting in a threshold level of negative information which shades doubts on the power of the dominant myth (Jonsson and Lundin, 1977, 163).

Even in the face of continuous negative information, organizational members -- especially the managerial elite -- still take for granted the dominant world view, rules, principles, models, and exemplars conveyed by the current paradigm. In dealing with this situation, "individuals might be avoiding contact with that type of information again, or actively searching for supporting, positive information" (Jonsson and Lundin, 1985, p. 163). Under a prevailing myth, organizations become dynamically conservative (Tushman and Romanelli, 1985, p. 202), and, as Sheldon argued, "members of the organization collude to avoid any questioning of their ideology [myths and metaphor based background assumptions] or what they do [actions taken provided by models and exemplars]..." (Sheldon, 1980, p. 63).

The chaos and the self-organization perspectives on systems theory maintain that triggering events and random shocks occur throughout the life of an organization and paradigm. During periods of normalcy, these shocks have minimal impact and organizations adopt to them by making changes as they perceive necessary. The dominant

paradigm "provides" answers to the puzzles and issues presented from within or outside the organization.

However, if the paradigm is unstable, shocks which may have caused little change during a normalcy period can trigger a series of events which can push the system away from equilibrium into an unpredictable state. (Prigogine and Stengers, 1984; Griffitts et.al, 1991) It is precisely during these conditions that a paradigm can move from a period of anamolies to crisis. This occurs because "tangible indicators of a crisis are needed to create a common feeling among members of the group that something is wrong" (Jonsson and Lundin, 1977, p. 165). These tangible events might be some seemingly unrelated development (minor ones under normal conditions) in and outside the organization, such as "sustained low performance, major shifts in the distribution of power within the firm, and/or discontinuous changes in product class conditions" (Tushman and Romanelli, 1985, p. 205).

Because these trigerring events and random shocks occur throughout an organization's history, they are shown across the entire time dimension shown in Figure 3.

The Crisis Period emerges as organizational members begin to look for new ways of thinking and alternative world views. The organization becomes more interactive with its environment and the industry knowledge base, looking for alternative ways to "do business." At the same time, the regulated or negotiated order among interest groups and stakeholders of the organization becomes chaotic, possibly triggering a "political process" or renegotiation of the established order (Tushman and Romanelli, 1985, p. 201-2; Jonsson and Lundin, 1977, p. 165).

For example, in the sciences during a crisis period, new theories and *ad hoc* patches to old theories are proposed (Sterman, 1985, p. 96). Organizational members may rally around a particular alternative, while competing ideas trying to find supporters. According to Jonsson and Lundin:

> ...one possible outcome of the political process might be the emergence of competing new myths. That is, a dominant coalition may not form around one alternative; individuals might gather in antagonistic groups and discuss ends and means of the present situation. The temporary result is paralysis of action.
>
> (1977, p. 165)

The Selection Period follows this period of crisis, as candidates for the dominant paradigm are developed. Almost by definition, these competing ideas are untested (Sterman, 1985, p. 95). Theoretically each idea has an equal chance to be selected as the next dominant paradigm. How this selection occurs has been debated in the literature with competing perspectives.

Jonsson and Lundin view paradigm selection from a rationalistic perspective. Selection of the next dominant paradigm occurs as a result of group deliberations. Kuhn with his work on scientific paradigms also viewed selection similarly.

However, this perspective overlooks important dimensions of organizational characteristics: existence of formal power, authority and influence. Brown first saw this relationship, of "the imposition of [a paradigm] reality by more powerful groups" in organizations (Brown, 1978, p. 375). Selection or decision-making is not always a rational process in which alternative paradigms compete with each other in terms of their explanatory power; rather, paradigm selection must be seen much more as a political process. Just as the Beta-max video recorder may have been a superior technological product, nevertheless, the VHS machine prevailed in the United States because of reasons of organizatinal power and influence. For these reasons, the next organizational paradigm is most likely the one which is championed by the key internal and external sources of power and authority. In Figure 3, the selective mechanism for preferring one paradigm over others is stated as "access to power and influence." This characteristic is not an element in Kuhn's work on scientific paradigms and in the related literature.

The Transition Period follows the emergence of a new paradigm, much like the transition between election and inauguration. However, certainly none of this is marked in

any way by the clear delineation of events or dates. Instead, the distinction between crisis, selection, and transition can only be delineated historically and is the work of organizational and social historians.

As the new paradigm gains superiority, a wave of enthusiasm appears in the organization. This happens with the establishment of new power relations and appearance of new actors on stage. Instability characterizes the initial policy formation period of the new paradigm. The process is typically the beginning of new organizational structures, procedures and systems (Jonsson and Lundin, 1977, p. 157). Under new sets of metaphors, myths, and, exemplars, another period of paradigm life-cycle begins, and the social matrix of the paradigm continues to extend within the organization. Change becomes evolutionary and incremental; performance and political order stabilizes over time. During this period of **normalcy**, the organization and the paradigm gradually gain the characteristics of a more closed system, becoming somewhat oblivious to new information in the industry-knowledge base and resistant to anomalous information.

When applied to American higher education, this model (summarized in Figures 2 and 3) provides: (1) Insights into the forces currently influencing the change process in higher education; 2) A holistic framework for understanding individual institutional change efforts and their connection to change underway at the larger system level; and (3) A framework for both speculation and prescription about paradigmatic change which we argue is inevitable in the near future.

The next section presents the application of the model to a specific organization, a large, land-grant research university. This discussion is intended to offer the reader insight into the applicability of this model in case study research and to also provide greater real-world understanding of the theories underlying the model.

The remaining sections utilize the model more broadly by tracing the development of higher education in the United States, using a Kuhn-like paradigm approach. This historical examination sets the stage for the final section of the paper which points the

reader toward the future and the paradigm shift in higher education which we are convinced is underway.

FINDINGS OF A CASE STUDY ON A LAND-GRANT RESEARCH UNIVERSITY

This section of the paper builds on the results of an empirical case study carried out by Simsek (1992) at the University of Minnesota. Data was collected through a series of twenty-four interviews with five randomly selected faculty from five departments in the largest colleges in the University. Each faculty member had been at the University for at least ten years. Each interview lasted about 45 minutes. The researcher developed twelve mutually exclusive categories relating to the "old" and the "in-use" paradigms. Interviews were transcribed and a qualitative method of content analysis was used to develop tags and sort the two-hundred pages of transcript by contextual similarity into the twelve categories. This findings are discussed below.

THE OLD PARADIGM

Metaphors explaining the old paradigm:

Respondents at the University of Minnesota reported four sets of dominant metaphors as best explaining the old paradigm: Amoeba, octopus, elephant, and a wildly growing garden.

From these metaphors, some interesting insights are gleaned about the old paradigm. For example, amoeba is a one cell organism which is essentially shapeless and multiplies by division. If you push it one place, it pops out in another place. This metaphor symbolizes the lack of a strong/solid identity for the University. As a land-grant institution, it was "all things to all people," and was in a constant process of multiplication or very much like "a wildly growing garden." The elephant metaphor conjures up size and a massive body. This metaphor characterizes the University by its mass and impressive size. Indeed, Minnesota has traditionally been one of the largest public universities in the

nation. The octopus, however, is easily identified with its multi-armed body. The University was like an octopus with its eight arms embracing different constituencies simultaneously, or a single body attempting to satisfy the demands of many constituencies simultaneously. This metaphor is also closely related to "a populist myth," as will be discussed later. Moreover, the metaphor of a "wildly growing garden" point to the uncontrolled and continuous expansion of programs (Simsek, 1992).

Exemplars Explaining the Old Paradigm:

Five exemplary activities were identified by the respondents as the application of the old paradigm. These were;

(1) Growing, expanding, diverse programs with much variety;
(2) Giving priority to the teaching mission of the university;
(3) Large size resulting from low admission standards and an emphasis on quantity;
(4) Decentralized, autonomous, collegial decision making granted to units to develop their own programs; as well as
(5) Emphasizing the service mission of the university.

These exemplars defined the dominant strategic behavior of the University until the early 1980s: diversified program offerings, large size, uncoordinated and decentralized unit behavior, and emphasis on teaching and service. There was also a high congruence between the set of metaphors and the set of exemplars used to describe the university. Underlying this congruence was a strong, solid, and consistent belief system. (Simsek, 1992). Overall, these exemplars reflected the central land grant philosophy, namely, to educate the sons and the daughters of the citizens of the state.

Myths Characterizing the Old Paradigm:

The myth also reflects this land grant philosophy or "populism," as evidenced in these quotes:

> It was highly populous, a belief that the university had to be all things to all people, a general world view that we just serve everybody and everybody's demands "willy nilly"
>
> It [the university] has risen out of a state with a very populist political tradition, so it has characteristics that are reflective of that populism in terms of support by people in the state.

Seventeen out of twenty-four (71%) of the respondents in one way or another spelled out the populist tone in describing the belief system of the university. It was a mythical belief that had been carried on since the founding of the university in 1851. One hundred years later this paradigm exacerbated strains at the University as the enrollment mushroomed during the 1950s and the 1960s. Respondents defined this "*land grant populism*" as:

> ..the mission of the university is to educate all who live in the state of Minnesota with the lowest possible cost. Access to the university is an entitlement of citizenship.
>
> (Simsek, 1992).

Anomalies

This study identified six major problems or anomalies that the University was dealing with: (1) growth and expansion, (2) thinly spread resources, (3) a continual decline in the overall quality of programs, (4) out-of-balance student-faculty ratios,[9] (5) program duplication across the four public state higher education systems, (6) lack of leadership as a result of extreme decentralization of decision-making (Simsek, 1992).

These anomalies were further exacerbated by the pressures from new knowledge and technologies as the information revolution began unfolding in the late 1970s. In paradigmatic terms, the University was being forced to cope with the initial phases of the information age.

9This, in turn, created an out of balance student-faculty ratio and out of undergraduate-graduate ratio in favor of the former. Thus, teaching load of the faculty was disproportionately increased, teaching more than research became the primary academic responsibility, and a heavy emphasis on undergraduate and teaching ultimately weakened the research and graduate level studies.

Attempts to Resolve Anomalies

The University of Minnesota responded to these anomalies by taking seven actions: (1) Developing a reallocation plan to distribute resources differentially, from low priority to high priority programs, not proportionately as before; (2) Reducing undergraduate enrollment by limiting the size of entering classes and raising preparation standards; (3) Thereby permitting greater attention and service to each undergraduate; (4) Reducing the complexity of the enterprise by eliminating, merging or reducing programs; (5) Emphasizing research and publication and increasing graduate enrollment slightly; (6) Moving towards more centralization and increased coordination of operations through top-down planning; and (7) Significantly increasing external support through private fundraising and extramural research grants.

Across the 1980s and into the 90s, these responses by the University of Minnesota have proven to be typical of an institution coping with the current anomalies. Given the growing accumulation of anomalies, we assert that these responses also reflect the beginnings of a new belief system emerging at Minnesota and elsewhere.

To provide a detailed context for the analysis of the new paradigm which is currently emerging, it is useful to trace in some detail the origins of the American higher education populist paradigm and its evolution across the twentieth century.

THE ESTABLISHMENT OF THE POPULIST PARADIGM IN AMERICAN HIGHER EDUCATION

The Morrill Act of 1862 is a federal initiative that immediately and dramatically changed America's higher education system.[10] It was the dominant ideology guiding the development of American public universities in subsequent decades. Specifically, the Morrill Act provided:

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[10]Although our analysis focuses exclusively on public universities, we believe that it is this belief system more than any other which shaped all of higher education during the 20th century.

1. support in every state for at least one college devoted to agriculture and the mechanic arts;

2. public lands or land script equal to 30,000 acres for each senator and representative under the 1860 apportionment (a total of 17,430,000 acres);

3. the funds, except for 10 percent which could be used initially to buy land for sites, to be set up as an endowment at no less than 5 percent interest;

4. if not used, the funds to be returned to the federal government in five years. (Westmeyer, 1985, p. 61).

Subsequently, similar initiatives continued. For example, the Hatch Act of 1887 furnished a federal annual appropriation of $15,000 to each state for agricultural stations at the land-grant institutions; the Second Morrill Act of 1890 provided an additional $15,000 to increase endowment or support of the land-grant colleges; the Nelson Amendment to the Morrill Acts established an additional $5,000 per year for five years to the original land-grant funding; The Smith-Lever Act of 1914 authorized the land-grant institutions to offer extension work away from the campus and to set up the agricultural and home economics extension services that became very popular throughout the country; lastly the Bankhead-Jones Act of 1935 appropriated still more funds to Agriculture and Mechanical colleges for support of agricultural research and co-operative extension work (Westmeyer, 1985, p. 65).

The classical land-grant university model was largely based on the idea of "agrarian socialism." The university was thought to be "the servant of the state," a machine to provide education to all citizens of the state. This populist philosophy had its roots in six developments:

(1). ***The dominant social ideology:*** Agrarian socialism was closely linked to a post-Civil War "progressive movement" that sought to purify life by establishing middle-class morality, protecting the weak, and controlling big business (Westmeyer, 1985, p. 74). In some states, like medieval cathedrals, public universities became the symbols of communal solidarity (e.g., Michigan, Minnesota, Wisconsin, Illinois, Indiana, California, North Carolina, and Texas) (Jencks and Reisman, 1968, p. 173). These universities

ideally were designed to be purely public, owned by the representatives of the people of the state, and expected to respond the needs of all as equally as possible.

(2). *Localism*: Although federal initiatives did play a major role as noted above, American public higher education was mostly supported by local taxpayers, especially at the undergraduate level. Jencks and Reisman argued that "as a result, everyone... had a college he (sic) could call his own. He had an initial claim on this college, regardless of how it felt about him. Under this system nobody was simply expendable, and nobody could fall through the cracks without being noticed" (Jencks and Reisman, 1968, p. 180).

(3). *Social Needs*: As soon as the industrial revolution started influencing the lives of ordinary people, the land-grant colleges were there as both a response and a cause to the mechanization of agriculture. Given the importance of the agricultural revolution on much of America's prosperity, land-grant colleges and their extension services played a primary role in this revolution (Jencks and Reisman, 1968, p. 106).

(4). *Regional climate:* A principle of the "progressive movement," which reached its peak in Wisconsin in the early 1900s, was that the university and state government should work closely. The University of Wisconsin began offering agricultural courses and programs, which rapidly resulted in increased agricultural productivity. Wisconsinats came to identify the university as their school, and programs continued to expand. The Wisconsin initiative was defined by state borders, or the entire state became its campus. (Westmeyer, 1985, pp. 74-5; Cowley and Williams, 1991, p. 167).

In a second regional development, Michigan, Minnesota, Iowa, and Wisconsin developed high school certification programs. Other states quickly followed this lead. By revolutionizing their connections with the K-12 segment of the educational system, "the Midwestern state universities led in a movement that resulted in the major universities in this country becoming both more uniform in their requirements and standards and more democratic in the sense that they intended to serve a much broader population than was served in earlier times" (Westmeyer, 1985, p. 99).

(5) From Church to College to University: Also having an impact on these developments is the historical fact that early colonial colleges were founded within churches, to educate clergy. The mission of the college was defined by the mission of church. Recognizing that the church is perhaps the earliest socio-political institution whose support primarily came from the community further explains the connection between American higher education and community service or populism. Although public universities were non-sectarian, their service orientation can be traced back to these colonial roots.

(6). *Institutional prototypes:* These changes took hold because of the quick establishment of institutions which in turn realized success in relatively short order.[11] For example, immediately following the enactment of the Morrill Act , Cornell University was founded in 1865 as the first-land grant university with Cornell's famous statement, "I would found an institution in which *any person can find instruction in any study.*" Cornell was a model for the further development of land-grant movement, with its commitment of service to the people and breadth of programs, with its emphasis on basic research, with its openness to all groups including women, and with its non-sectarian governance:

> Cornell provided a model for other institutions; Minnesota under its president, Will W. Folwell, in 1869 copied Cornell almost entirely; Wisconsin followed her lead but developed the service aspect to a special peak."
>
> (Westmeyer, 1985, pp. 66-71)

This set of factors within higher education were the conditions of the "land-grant philosophy" from which sprang a "populist myth." It created an image (still familiar in the 1980s) of the university as a place where *"every high school graduate is accepted, and everything from ceramics to archeology is taught"* (Jencks and Reisman, 1968, p. 180). With the advancement of the industrial revolution, the model was gradually adapted by many public universities. Service became an almost inseparable component of the

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[11]The University of Minnesota actually went bankrupt after a few years of existence but "reappeared" following the Civil War.

university. Training and education of state citizens, technology transfer, agricultural and industrial stations became generic components of mission statements.

Societal Forces at Work at the End of the 19th Century

Important to this discussion, however, is another set of broad changes -- those occurring at the end of the 19th century in industrial America but outside the academy. These changes further reinforced the populist paradigm of American higher education.

The dominant intellectual map: The industrial age of science was defined by the following properties of scientific knowledge (reported in Lincoln, 1990, pp. 70-72):

1. Reality is simple: The universe is a cumulation of noninteractive, nondiverse, finely divided, distinctive and separate systems. A phenomenon is the sum of its parts.

2. Hierarchy as a concept of order: Systems can be classified in a hierarchical order from the simplest to the most complex. "This was reflected in social systems which cast certain members of society as second-class citizens (such as women and persons of color), in monarchical systems which supported the 'divine right of kings,' in the periodic table of chemical elements, and in the common assumptions regarding how the natural world was taxonomically ordered into increasingly complex organisms."

3. The universe is mechanical: The universe is a clock-like mechanical object, a machinery. "When put into motion, it simply moves until it winds down or runs out of energy."

4. Direction is determinate: If the universe is a clock or machine, then its future is strictly determined. Given a great enough number of mathematical models and enough computational power, the behavior of any system could ultimately be predicted.

5. The causality of relationships is linear: In a Newtonian-Cartesian universe, *if* we know the causal relationships among parts, *then* we can explain the outcomes.

6. Change is quantitative and assembly-like: Systems progress in an assembly-like manner, with change adding a new part or dimension as time moves the "assembly line" forward. Rarely is their qualitative change or discontinuous redefinition.

7. Objectivity is not only possible but essential: In a Cartesian universe, the ways of knowing are explained in terms of "the use of reasoning as a way of coming to understanding, and the distancing of the observer from the thing to be observed."

These implicit properties of intellectual/cognitive endeavors were an important component of the industrial revolution and had an impact on the evolution of higher education structures, just as they did on all other types of institutions and organizations. From religious order to pedagogy --- from organizations to economic relations, the establishment of the industrial scientific paradigm was both descriptive of its time and prescriptive in the creation of further realities.

Structural configuration of organizations: The scientific or positivist paradigm laid out above created concepts such as "chain of command, subordinate, unity of command, authority, line officers, staff officer, tight ship, troops, span of control, and standard operations" (Lincoln, 1990, p. 79). Many scholars developed important organizational theories using the properties of the positivist paradigm, viewing organizations as machines or systems. (Morgan, 1986).

When populism was in a significant growth period at the turn of the twentieth century, the positivist organization paradigm was also in a momentous growth period. The most typical metaphor dominating organizational science was the factory. The metaphor was quickly adapted to educational institutions.

This metaphor of factory carries important implications for the populist paradigm and how we judge our success. First, production is evaluated by quantity. The larger the output, the more productive the factory. Second, structure is most efficient if it is organized in a factory manner. Thus, division of labor, separate units, finely distributed assignments, supervision of work, hierarchic control and communication, specialization,

span of control, and many other classical organization and management assumptions were applied to schools and universities. Although the twentieth century "academic revolution" (Jencks and Reisman, 1968) provided and strengthened the collegial model of governance, the underlying "factory" structure has remained more or less intact.

Industrial revolution and special interests: In large measure the industrial society was defined by structural elements larger than the individual. Individuals were too little and too powerless against the shock waves of early laissez-faire capitalism. This was most noticeable in Europe where Durkheim described the end result as "sezhofrania," while Marx saw solution in class consciousness and conflict. Against the sins of capitalism, the only protection was to be identified with a group, class, or community. Protection was afforded by "collective action," "unionism," and "self-interest groups."[12] By the late nineteenth century, relatively unified social establishments had disintegrated into "special-interest" groups (Jencks and Reisman, 1968, p. 3).

In 19th century America, the protection of the powerless, the weak, and the poor against the devastating effects of early capitalism became the base of a progressive social movement. Yet 19th century America was composed of a collection of geographically, socially, culturally, ethnically and religiously distant, local establishments. The country was divided between Irish and Yankee, Baptist and Episcopalian, North and South, country and city (Jencks and Reisman, 1968, p. 12).

> Nineteenth century Americans grouped themselves by occupation, social class, religion, sex, locality, and ethnic background, among others. As the century wore on almost all these groups felt impelled to set up their own colleges, both to perpetuate their distinctive subculture and to give it legitimacy in the larger society. By 1900 there were special colleges for Baptists and Catholics, for men and women, for whites and blacks, for rich and not-so-rich, for North and South, for small town and big city, for adolescents and adults, for engineers and teachers.
> (Jencks and Reisman, 1968, p. 2-3)

12It is interesting to note that socialism as a political ideology was born with the industrial revolution and may have perhaps ended with it. This point causes one to pause, even if only momentarily, on the future of the higher education paradigm.

Jencks and Reisman classified these institutions as "special-interest" colleges. Even today colleges and universities often deliberately exclude students from outside their state or region; larger state universities charge out of state students differential tuition rates.

Populism, as defined in American higher education, established roots in the soil of these larger circumstances.

Chaos and crisis: The paradigm perspective tells us that the revolutionary period is threatening, irrational, and chaotic. For a paradigm shift to occur, old patterns of thinking must be abandoned, and the link between past and present must be severed. Chaos is a precondition for a discontinuous change from the old to new realities. In most cases, as Kuhn argues, paradigm builders are initially outsiders, relatively young, small entrepreneurs, and risk-takers. They are not nearly as bound by the social conditions and they more easily see alternative realities. Newcomers, entrepreneurs, risk-takers are important in building alternative paradigms.

America in the mid-nineteenth century had all these properties of a paradigm shift:

> By the second quarter of the nineteenth century the character of American society had begun to undergo a *radical transformation*. The break with England, the formation of a national government, the disestablishment of state churches, and the opening of lands across the Appalachians had all gradually *undermined the established institutions and traditions of colonial society*... The eclipse of established colonial hierarchies after 1828 created a vacuum which almost everyone was eager to fill, but nobody succeeded. The rest of the nineteenth century therefore saw a continuous *struggle for power and legitimacy between the many subcultures* that flourished in the rapidly growing nation.
>
> Once it became clear that no single group of men (sic) had the power to shape society as a whole, *many preferred to strike out on their own* rather than try to climb the long ladder into existing institutions" [emphases added] (Jencks and Reisman, 1968, p. 2).

Out of this complex of factors following the Civil War emerged the land-grant philosophy that we have termed the populist paradigm.

THE EVOLUTION OF THE POPULIST PARADIGM

During most of the twentieth century the populist paradigm dominated the strategic behavior of higher education institutions, particularly public ones. Benchmarks were cast in

terms of: (1) Variety, and many program offerings; (2) emphasizing the teaching mission; (3) low standards or guaranteed admission emphasizing size of the entering class; (4) emphasizing the service mission of the university. These dominant strategic behaviors were tacitly included in the populist ideology and have been salient throughout the history of these institutions.

Some higher education sociologists describe the period before the Second World War as the "ivory tower" period. We see it somewhat differently. For example:

> Opportunities for higher education, once available mainly to a narrowly based group of young persons, were opened to a wider segment of the population by the land-grant movement after the Civil War...In 1879, 52,000 undergraduate students were enrolled in the nation's colleges. Within a decade, enrollment doubled and after another 50 years, by 1930, it had passed the one million mark
> (The Carnegie Foundation for the Advancement of Teaching, 1975, p. 26).

Compared with its counterparts in Europe and elsewhere, no other public higher education system was more responsive and open to social, economic, and political needs of the country than the American land-grant movement.

Figure 4 about here

Between the 1870s and the first quarter of the twentieth century, the American economic base moved from agriculture to industrial production, from rural to urban centers, and so did the mission of the land-grant institutions move from a nearly exclusive focus on agricultural service and extension to add an "industrial" focus. "About 1875 the number of Americans employed in agriculture fell for the first time below the number engaged in non-agricultural pursuits" (Cowley and Williams, 1991, p. 162), and "as the industrial system matured in this country, higher education took on responsibility for preparing students for roles that covered a spectrum from applied engineering and agriculture to psychologically-based personnel services" (Duryea, 1981, p. 24). .

This range of social, economic and political developments carried the nation into the 1940s without altering the fundamental premises of the populist paradigm. The Second World War was a most significant period for American higher education, especially for land-grant and other public institutions. American involvement in the war created an urgent need for sophisticated scientific manpower and knowledge development. Academics quickly responded with their scholarly expertise, and they produced spectacular results. At the same time, the office of Scientific Research and Development decided not to set up its own research facilities, but instead to contract with universities (as well as with industry) for such activity. After the war, these wartime arrangements were modified and institutionalized as federal granting R&D agencies. This development established a powerful set of incentives for individual faculty and thus their disciplinary associations. Coupled with the G.I. Bill, higher education became a tremendous growth industry (Cowley and Williams, 1991, pp. 183, 190; The Carnegie Foundation for the Advancement of Teaching, 1975, p. 33; Henry, 1975, p. 123; Jencks and Reisman, 1968, p. 14; Boyer, 1990, p. 10; Bok, 1990, p. 2). As a result, the emphasis in mission continued to shift from agriculture to industrial service, from teaching to research and development. Yet it did so without significantly altering the underlying myths of populism. This was possible because choices were not necessary; growth and change could be accommodated by addition.

During this era of growth an important governance change also occurred, as explained by Jencks and Reisman. The "academic revolution" led to significant increases in academic freedom and the collegial model of organizational decision-making. Faculty earned a considerable amount of power and authority to make decisions at departmental, college, and even central levels.

> It is generally agreed that institutions of higher learning are best understood as collections of fundamental autonomous units rather than in terms of a central authority, or conception of a whole, to which they are subordinate. Departments were designed to avoid curricular chaos and shift power from the president to the faculty

(E. Coleman, 1981; reported in Alpert, 1985, p. 246).

With these significant changes to the populist paradigm, Simsek and Louis (1991) have described the paradigm after the World War II as *"entrepreneurial populism."*

In concluding this analysis, we make three summary points:

(1) The basic framework for American higher education and its philosophical underpinnings was developed in the late nineteenth century. This was perhaps the most chaotic period in the American higher education industry with an extremely high mortality rate for new institutions. Chaos led to order, and a populist paradigm emerged out of this tumultuous period. This paradigm continued to "work," given the significant revisions added to it by the events surrounding World War II.

Following WW II we might expect to see a new paradigm emerge. The basic tenets of the populist paradigm, however, remained intact, even though the next thirty years were the period of higher education's most phenomenal growth.

> During the growth period of the 1950s and 1960s, the increasingly decentralized system of governance was highly adaptive. Change took place by enlarging the institution, *keeping the old structure intact* and adding new academic units under the stimulus of readily available federal research funds and the rapid growth in student enrollments. Academic units were added to accommodate new research activities, developed by outstanding faculty members with entrepreneurial instincts; at the same time, many existing departments also grew substantially... *Faculty members became entrepreneurs*" [emphases added]
>
> (Alpert, 1985, p. 248).

(2). The populist higher education paradigm has served the United States very well; for it is an industrial paradigm, consistent with western society's broader, organizing paradigm. It is not accident that the paradigm was founded after the Civil War as the people of this country were establishing a modern nation. And, this philosophy remained intact for nearly one-hundred years. For example, in 1947 the Truman Commission on higher education reemphasized these underlying tenets:

> The American people should set as their ultimate goal, an educational system in which at no level-high school, college, graduate school, or professional school-will a qualified individual in any part of the country encounter an insuperable economic barrier to the attainment of the kind of education suited to his aptitudes and interests
>
> (reported in Cowley and Williams, 1991, p. 189).

(3). The populist paradigm has continued to thrive because the social and economic circumstances have always been supportive of its fundamentals tenets. Our country's economic and social prosperity created an image that "*the American financing capacity is infinite*," and "an infinite amount of financing will be available to enable collegiate institutions to provide *virtually any service*" [emphases added] (Mayhew, Ford and Hubbard, 1990, p. 19). These same authors also note that "the earlier, generally accepted synthesis of higher learning as essentially an intellectual undertaking gave way, at least in part, to the notion that colleges and universities were essentially institutions that provided social services and *were obligated to provide whatever kinds of service anyone wanted*" [emphasis added] (p. 12).

However, by the mid-1970s and into the early 1980s, the entrepreneurial-populist paradigm began showing signs of significant change. Not surprisingly, this occurred at the time that the U.S. industrial system was also under the most stress, and universities began a period of significant change and reorientation.

THE PARADIGM OF HIGHER EDUCATION IN THE 1990S

From their work at the University of Minnesota, Simsek and Louis (1991) concluded that there was not a radically different paradigm emerging at the University. Rather it was more closely tied to the old belief system, populism. The institution has been in the process of reversing the swing of the populist paradigm but working within it. Although still working well within the boundaries of populism, the free-wheeling entrepreneurialism of the 1950s and 1960s is being replaced by *managed populism*. We believe that managed populism will survive until some strong shocks lead to discontinuities as happened in the 1860s and 1870s. Because the populist paradigm is so fundamental to American higher education, it will take a "revolution" --- in paradigmatic terms to change it. Yet we think the signs of this coming revolution are most evident. John Galbraith comments on today's conditions when he says, "Modern higher education has extensively accommodated to the needs of

the industrial system," but "the 'glory days' of the postwar period will not reappear in the near future" (Altbach, 1981, p. 236). We believe that managed populism is the third and final phase of the populist paradigm.

The Managed Populism

Before looking at the future in some detail, we briefly characterize managed populism; for it continues to be the back drop for contemporary American higher education.

(1). Institutional size and complexity: Since the early 1980s, we have observed a great deal of efforts on the part of institutions to reduce the size of enterprise into a more manageable one. Many argue that these efforts are due to shrinking state and federal monies. "From 1967 to 1987 the share of GNP that Washington devotes to research and development (R&D) dropped from 2.1 to 1.3 percent... For example, grants for research facilities have dropped by a staggering 95 percent since the 1960s, while the number of federal fellowships and traineeships has dipped by more than 25 percent" (Bok, 1990, p. 13-14). Throughout the 1970s and the early 1980s, number of programs and units closed or merged with another proportionately increased (Mayhew, Ford and Hubbard, 1990, p. 4-5). However, shrinking resources have only been part of the cause. Many institutions also recognize that this is an opportunity to reverse the problems of quality, cost, accountability, and an impersonal campus climate brought on by the populist growth years.

(2). Upgrading quality: As Mayhew, Ford and Hubbard (1990) argue, "a major component of the history of American higher education since 1940 is a chronicle of responding effectively to a series of serious, but quite different, challenges rooted in demographics, economics, changing societal values and priorities, and *now quality*" [emphasis added] (p. 4-5). They go on to support our hypothesis that the entrepreneurial-populist years of American higher education was the main cause of severe quality deterioration:

> During the 1960s and 1970s, grades were inflated, requirements were generalized and diffused, validating tests were abandoned, and semesters were shortened while educational leaders concentrated their energies on maintaining whatever portion of society's resources they had grown accustomed to receiving
> (Mayhew, Ford and Hubbard, 1990, pp. 10, 123-124).

At all levels, attempts to enhance the quality have been at the top of many institutions' agendas. Even administrative practices are undergoing scrutiny with the significant recent interest in Total Quality Management. These efforts are reversing the emphasis on quantity during the years of the populist myth.

(3). Cost and accountability: The cost of higher education has been one of the top issues on the public agenda since the early 1980s. Institutions have been struggling to reduce cost with painful internal reorganization and redistribution of resources. Cost reduction, efficiency and accountability will continue to be a priority for many institutions in the 1990s until the industry finds new organizational schema that are consistent with the emerging paradigm.

(4). Increasing centralization: This issue may be the most complex. Currently the system is experiencing decentralization in the form of privatization. However, more central direction at the institutional level including rules and regulations that are imposed on higher education by both states and the federal government have shown a steady increase and will likely continue until these decision-makers feel that higher education is effectively addressing its challenges. The 1992 higher education reauthorization is a poignant example of this.

At the institutional level Alpert foresaw this problem when he argued that "the decentralization that was highly adaptive during a period of expansion [1950s and 1960s] becomes maladaptive in times of retrenchment. To reduce or eliminate programs in times of retrenchment is far more difficult than to add them in times of growth" (Alpert, 1985, p. 249). At the state level, according to Kerr and Gade, "in 1980, only one state lacked a mechanism for coordination of all higher education within the state, including the private sector; forty years earlier, only one state had such a mechanism" (Kerr and Gade, 1981, p.

120). As in the case of national health care, higher education has already experienced more centralization as policy makers wrestle with their own concerns about quality and cost. For instance,from his rich comparative perspective Burton Clark eloquently argued over ten years ago:

> The trend toward central political and bureaucratic coordination is running strong... In fact, if our current momentum toward bureaucratic centralism is maintained, first at the state level and then at the national, we may see the days when we catch up with our friends abroad [some European systems such as Sweden, France, and Italy] or even pass them as they travel in the direction of decentralization (Clark, 1981, p. 292).

(5). Access: The notion that "every high school graduate is guaranteed a college education" we believe is changing. Certainly in the Minnesota legislature more elected officials are willing to question "out loud" whether we have too much higher education. Most populist, land-grant institutions have become more selective in the past decade. Yet this strain of serving all runs deep in American society. As Mingle has pointed out, the trade-off between access and quality to be provided in light of diminishing resources will be the issue dominating the 1990s.[13]..

FROM ANOMALIES TO CRISIS: SOME EVIDENCE

Our analysis is built on an assertion that the current set of anomalies vis-a-vis the dominant paradigm of *managed populism* is so great that in the near future there will be some significant shifts in our dominant belief system about higher education. To build the case for this assertion, we examine the anomalies both within the academy and external to it. Then, we demonstrate how our current paradigm is in the midst of an emerging "crisis," as paradigm theory terms it.

Anomalies within the academy. First, there is a growing perception that the quality of teaching has declined. Whether the decline is real or only perceived is moot; the

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[13]Personal conversation with Dr. James Mingle, Executive Director, State Higher Education Executive Officers.

feeling exists that it has slipped. Second, the "publish or perish" syndrome emanating from the research model has resulted in a growing proportion of low quality and "often inconsequential material, rather than the protracted pursuit necessary for a major intellectual contribution" in almost all disciplines (Mayhew, Ford and Hubbard, 1990, p. 131). Third, the primacy of the disciplinary affiliation has seriously weakened the faculty's attachment to their institutions. This has come about because of the importance of peer judgments in the awarding of research contracts and the dominance of research measures to determine institutional advancement. Fourth, across the board application of research model norms has been ill-suited to many institutions of higher education. Their faculty have neither the background, nor does the institution have the infrastructure to support sophisticated scholarly work. As a result, institutional effectiveness and efficiency have been jeopardized. Fifth, the broad emphasis on research productivity has created an unsatisfying climate for many professors who are good teachers, but who have less interest in research. Thus, the reward and compensation structure dominated by the research model has penalized a significant number of academics that many stakeholders of higher education would judge as productive.

Even the most respected scholars and institutions are questioning the dominance of the research or current paradigm. Boyer has called for, "a more inclusive view of what it means to be a scholar -- a recognition that knowledge is acquired through research, through synthesis, through practice, and through teaching." He proposes that we differentiate our measures of productivity by expanding our definition of scholarship to include: the scholarship of discovery (research), the scholarship of integration (multi-disciplinary work), the scholarship of application (service), and the scholarship of teaching. Mingle (1992), and Baldwin (1985) suggest the need for differentiating between roles, as an approach for breaking the dominance of the research paradigm. Many strong research institutions (e..g, Michigan, Syracuse, Campus Compact) have placed improved teaching at the top of their institutional agenda.

Anomalies External to the Academy. There is every reason to believe that funding will be tighter during the next two decades than at any period since the Depression. Currently two-thirds of the state governments are running a deficit. Unfortunately higher education is not near the top of most state's funding agenda, nor is it likely to move-up in the immediate future. When looking back from the year 2001, an increasing number of people are now predicting that the period 1990-92 will be viewed historically as the "golden years" of the 90s. As the financial strain continues to grow, legislators and other stake holders will increasingly demand evidence that their sizable investments are being used as effectively and efficiently as possible.

In particular "provider" driven organizations are under the most serious siege (Dolence and Norris, 1992). Health care, legal work and education are all being questioned by their "customers." No longer will the patient, client, or student sit idly by while the providers define what is needed for them.

Quality is becoming the coin of the realm in all products and services, and with each passing day the "customer" is getting more adamant about it. In previous eras the public was less informed about the nature of higher education. A much smaller portion of the population had ever experienced any post-high school education. The prevalent attitude is captured by a Minnesota farmer who said to his niece, the first family member to attend college, "We don't know what you're studying at that university, but we sure are proud of you!" In the past, post-secondary education guaranteed a job; it guaranteed status; and it was somewhat shrouded in mystery.

All of these "anomalies" point toward change. But the question still remains, "How imminent is the change?" We feel that change is upon us, and we return in the next section to the theoretical work on paradigm development to build this case.

Chaos, Crisis and Conflict Lead to Selection of a New Paradigm

Paradigm theory maintains that crisis is a necessary component of discontinuous change. It is during this time of discontinuities that potential new paradigms are developed; many fail; and some thrive. Theorists have shown that we are in a crisis period when a number of the following conditions exist. To buttress our argument we include some observations about the current state of higher education.

(1). Extensive argumentation about the basics and principles of seeing and doing things (Jonsson and Lundin, 1977; Simsek and Louis, 1991; Louis and Simsek, 1991)
Observation: Consider the on-going debates about "political correctness," multi-culturalism, and the spate of recent books debating the philosophical underpinnings of the American university .

(2). Extensive reports, observations and increasing amount of data on failures of the system.(Jonsson and Lundin, 1977; Louis and Simsek, 1991).
Observation: *Consider the extensive coverage in the popular press focusing on the shortcomings of American higher education. Legislative staff in Minnesota completed a report highly critical of the completion rate of community college students; SHEEO just completed a study of faculty productivity that is getting significant attention by both the higher education press and the national press.*

(3). Psychological dissatisfaction and confusion on the part of practitioners using the elements of paradigm in their daily practices (Sterman, 1985; Simsek and Louis, 1991)
Observation: *Consider the conflicting messages which faculty are receiving today about the priority of teaching versus research. It is not difficult to find accounts of low morale amongst faculty.*

(4). A great deal of performance deterioration in the system that breaks down the established negotiated political order among the interest groups in the system. (Tushman and Romanelli, 1985; Jonsson and Lundin, 1977)

Observation: *Consider the increasingly aggressive stance which legislatures are taking with regard to teaching loads. Studies have been mandated; legislation has been introduced.*

(5). An increased search for alternative ways of doing things, proliferation of alternative proposals, action guidelines and cognitive approaches to fix and resolve the anomalies (Simsek and Louis, 1991; Sterman, 1985; Kuhn, 1970)

Observation: *Consider the many innovations during the 1980s to serve adults; also the founding of alternative models such as National Technological University (NTU).*

(6). Relatively minor events which under normal conditions would be handled easily, trigger a domino effect leading to other more serious events and problems (Simsek, 1992).

Observation: *Consider that in Minnesota the questions of overruns on remodeling the president's house led to an examination of the entire financial structure of the University; or how indirect cost recovery questions can lead to a compete reexamination of the research enterprise.*

(7). Increasing dynamism in the industry as the birth rate of new institutions and death rate of existing ones increase proportionately. As anomalies emerge, it creates an opportunity for others to enter the system.

Observation: *Consider the establishment of the cable TV Mind Extension University, the for-profit Keller Graduate School of Business, or the University of Phoenix with its campuses throughout the West and its innovative curriculum development approach.*

From our contemporary vantage point it is difficult to surmise if at any point in history we could generate a list such as the above. However, we feel strongly that when you put together these indicators of paradigm crisis with the list of anomalies noted earlier and then couple all of this to the significant changes underway throughout society, the case is strong if not irrefutable that a shift in paradigms in the near future is inevitable[14].

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[14]As an aside, one of our most contemporaneous events, the 1992 presidential election reveals the seriousness of the crisis at hand. With only a few days to go before the election, voters' preferences seem to

If that is the case, what can we say about the emerging paradigm? The final section of this paper proposes an approach for addressing this question.

SHAPING THE EMERGING PARADIGM

Although it is intuitively obvious, it is always worth repeating: The future is unpredictable! At best, our crystal ball can give us only a fuzzy glimpse of the years to come. Also, only in retrospect can you define a new paradigm. The process of paradigm development, evaluation, and selection is a messy and inexact process, not unlike any other ruthless Darwinian survival of the fittest.

Thus, we think it is both shortsighted and ineffective to speculate on future paradigms. Instead, we propose a three-step framework which can be utilized by individuals, institutions, or policy makers as they work to "create higher education's future." Utilizing this framework will increase the likelihood that an institution emerges from this period of chaos and conflict with an institutional plan that works with and not against the emergent paradigm.

1st: Recognize the larger forces at work and build on them. A number of broad changes are underway which can be easily overlooked because they are so large and amorphous. They occur on a number of fronts.

Shifts in the intellectual fronts. The structure of knowledge is changing, as pointed out by Scwartz and Ogilvy (1979) in Lincoln (1985). Today:

1. Reality is complex. Variation, diversity and interactivity are inherent characteristics of all phenomena and systems with."....each system develop(ing) properties which are unique to the system." (Lincoln, 1990, p.69)

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swing wildly. The "Perot factor" stands like a beacon reminding us that people are not only seeking change but they recongize that there is something fundamentally different happening in our country.....something that traditional politicians are not prepared to address.

2. Heterarchy is order. Systems are not hierarchical and pyramidal but heterarchical in which mutual constraints, influences and movements are unpredictable.
3. The universe is holographic The universe cannot be understood mechanically by taking apart components and reassembling them in reverse order. Everything is interconnected with each part containing information about the whole.
4. The direction is indeterminate Possibilities can be known, but precise outcomes cannot be predicted; "....ambiguity about the future is a condition of nature." (Lincoln, 1990, p.71)
5. Relationships are nonlinear and mutually causal Rather than A causing B, perhaps A and B interact in such a way that they evolve and change together.
6. Change is morphogenetic with "a sense of order emerging from disorder." Systems are diverse, open, complex, mutually causal, and indeterminate leading to qualitative rather than quantitative changes. (Lincoln, 1990, p.71)
7. Observers are participants with perspective. The observer is not isolated or distant from the observed. There is no such thing as objectivity, but there is perspective. "Perspective connotes a view at a distance from a particular focus. Where we look from affects what we see. No single discipline ever gives a complete picture. A whole picture is an image generated morhogenetically from multiple perspectives" (Lincoln, 1990, p. 72).

Although these shifts may seem more related to a theory of knowledge, these shifts in the "knowledge industry" are having a noticeable affect on the functioning of universities. For example, one of the significant challenges facing academic programs is how to promote and reward interdisciplinary work. It is not coincidental that these fundamental shifts are occurring in knowledge during the same period that society is also undergoing a significant shift. Similar phenomena occurred during the Industrial Revolution, from which emerged the populist paradigm.

Shifts in the configuration of organizations. Changes in the organization of knowledge coupled with the broad societal changes prompted by the "information age" are having an impact on the structure, mission, configuration, and adaptation patterns of our organizations. There are direct parallels between the emerging properties of knowledge as we noted above with the new theories and practices in organizational behavior.

The late 1970s and the early 1980s was a dynamic period for organization theory. Called the postpositivist paradigm, organizational scientists incorporated unorthodox theories into their work using concepts such as culture, chaos, holography, flux [Morgan, 1986], garbage can, loose coupling, etc. They also began employing more qualitative methods for data collection rather than the dominant quantitative method used in the previous two decades. Indeterminacy, the inability to predict the future with precision, coupled with the inadequacy of linear and sequential decision-making, led to the development and popularization of strategic planning with its penchant for environmental scanning, scenario development and issues management. (Lincoln, 1990, p. 80).

Radical organizational practices have become much more commonplace. For example, Toffler gives numerous examples of replacing classical organizational structures, the "cubbyhole" organizations, with new "flex organizations" due to the change in information technologies (Toffler, 1990, 165-178). Similar observations were made by Naisbitt and Aburdene in their 1985 study on organizations, "Reinventing the Corporation." Peters and Waterman's influential book, In Search of Excellence, reported on organizational innovations taking place in a number of U.S. corporations. In his follow-up book, "Thriving on Chaos," Peters described some radical applications of new organizational practices as well as prescribing some general models. Although these practices have not yet significantly impacted higher education institutions, they will undoubtedly have some impact on higher education structure, as parallel changes did in the latter part of the 19th century.

Shifts in the fundamental social, economic and political unit. As noted earlier, 19th century capitalism devalued the individual. It was largely defined by the "struggle of collecteds." Labor unions have been a typical example of the "collecteds" through which individual rewards and benefits were strictly tied to collective interests, rewards and benefits (Toffler, 1990; Naisbitt and Aburdene, 1990).

The information revolution is having a profound influence as it changes society in to an endless array of individual units. Naisbitt and Aburdene call this the "demise of the collective." The individual is the basic unit in the information society, from economy to politics to culture to education (Toffler, 1990, pp. 204-13; Naisbitt and Aburdene, 1990, pp. 298-310). We are learning to appreciate individual creativity rather than group uniformity; we are learning to understand individual perspective as opposed to the integrated social mind; and we are developing more individualized rewards and benefits. The implications of these emerging patterns on traditional pedagogical philosophies are most significant.

Our earlier examination of the evolution of higher education's paradigm in the twentieth century brings home one point with dramatic clarity. Forces external to the academy have been the driving force behind nearly all significant change in higher education. Thus, there is no doubt in our minds that the next higher education paradigm will reflect these broad societal developments.[15] Attempts by higher education to reverse

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[15] **A Fuzzy Picture of the Emerging Paradigm:** Why a fuzzy picture? As Schwartz and Ogilvy (1979) argued "in complex systems possibilities can be known, but precise outcomes cannot be predicted" (reported in Lincoln, 1990, p. 71). The ideas that we will present further below point out a general direction to which the coming paradigm of higher education may lead. However, in what precise format these patterns will emerge, that is we don't know. Thus, we are proposing a number of possible conditions, not an accurate future state. As chaos theorists argue, randomness and chance are always the integral part of systems in revolution. Our analysis in this paper leads us to explore following general dimensions of the emergent paradigm of the American higher education:

a. The sociological paradigm of the higher learning institutions will base on service to individual (with an emphasis on individual as indirectly relating to public) as opposed to service to public (with an emphasis on public interests and benefits as indirectly relating to individual).

b. The overall patterns of the organizational paradigm of higher education institutions will be consistent with the outcomes of the emerging information revolution, changing intellectual-scientific base of organization and management sciences as well as others, e.g. basic activity as being the production of knowledge and processing of information; highest value to creativity and individual contribution to the

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these changes is akin to an individual standing in the middle of railroad track and trying to stop a locomotive. You can't flag this one down, nor can you throw the switch to reroute it. The best we can do, is to jump on and take the ride. We can, however, decide what role we want to play while on the train.

2nd: Utilize Five Key Strategies[16]

To build on these emerging characteristics, five key strategies are useful. They incorporate the current concerns expressed by most higher education stakeholders and build on the broad shifts described above.

Focus on the customer. Higher education institutions have many stakeholders; all of them have an interest in what the institution does and the quality of the services it delivers. However in each "transaction" there is only one primary customer. Primary customers benefit directly from what we do and are in the best position to judge the quality of the institution's work. Identifying customers specifically, staying in touch with them, and adapting to meet their changing needs is essential. Serving the primary customer exceptionally well will be required performance for the next paradigm.

Be Specific and Demanding About Quality. Quality is simply defined as meeting or exceeding the expectations of those who are served. For centuries "quality" has been a much debated word in higher education. Well known higher education scholars have noted the elusiveness of a definition for quality and one noted set of authors even

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institution; a possible differentiation of teaching, research and service functions among the public institutions; more integrated in terms of being more interdisciplinary, interprofessional, and more interdepartmental (Alpert, 1985, p. 267).

c. To us, the American higher education has a great potential to successfully complete a paradigm transformation compared to other systems elsewhere in the world. "Higher education...is among the most competitive enterprises in America. More than 3,000 separate colleges and universities are perpetually vying with one another for students, faculty, and resources. This constant rivalry generates powerful forces that make universities pay attention to the desires and priorities of many groups and constituents in the outside world" (Bok, 1990, p. 42). These patterns of competitiveness and constant rivalry are important forces in building and reshaping alternative realities, what we called the paradigms.

[16]This section was heavily influenced by the work of Peter Hutchinson from the Public Strategies Group, Inc. and a project which R. Heydinger is working on at the University of Minnesota Crookston with Hutchinson. The authors thank both Hutchinson and the Crookston campus for their contributions.

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concluded that "we know it in our bones." We must recognize that in today's world stakeholders will not continue to make sizeable investments in an institution unless it can demonstrate quality.

Quality begins by carefully assessing the needs of those to be served. The curriculum and other services are designed around these needs. Yet meeting the needs of those we serve is not a simple pandering to be the most popular. Instead, we must look to the long terms expectations and needs of our customers.

For example, in a first-year English composition course quality standards are not determined solely by the expectations of first-year students. Employers, alumni, and current advanced level students have an informed perspective about the role of first-year composition. These stakeholders must assist in quality definition and assessment. Moreover, these individuals through direct feedback to first-year students can reinforce the importance of composition as an essential component of baccalaureate education.

Build from Collaboration. More than any time in the past, collaboration is an essential strategy in responding to the changes which are upon us. It offers ways to increase quality substantially without incurring "full costs." For example, visiting scholars have long been a collaborative strategy utilized by higher education. Today's telecommunications permit us "to bring in the world," thereby leveraging costs so that institution gets the greatest value for each dollar. Buying, selling and developing programs jointly may be a foreign concept to today's institutions, but it is happening with increasing regularity and will be commonplace in the emerging paradigm. Since the exclusive objective is providing customers with the best value for the resources expended, collaboration should be viewed as a sign of quality, not weakness.

Utilize Technology to its Fullest. Like collaboration, technology is another means by which the ratio of value to cost can be increased.. Technology allows the delivery of current services more efficiently or to deliver more services and more value within the limitations of current resources. The future paradigm will force us to ask repeatedly: Does technology offer us a tool for doing something smarter or better?

Recognize the Inherent Power of Accountability Measures.

Accountability to customers is more powerful than accountability to supervisors. The more powerful customers are, the more powerful the accountability. Accountability mechanisms may be arrayed along a continuum from those with the fewest direct consequences to those with the most. If accountability mechanisms are developed which empower the customer to have a direct influence on departmental resources, the restructuring necessary to respond to the conditions of the emerging paradigm has the highest likelihood of occurring.

These five strategies are offered as guide posts for addressing the period of crisis which is upon us as well as the emerging new paradigm. Next we turn to the levers of change which are most likely to produce results that are consistent with the emerging paradigm.

3rd: Work on Characteristics with the Most Salience for the Emerging Paradigm

Each institution must assess which "characteristics" of its current operation, if redefined, have the most potential for ushering in significant change, . Selection of the characteristics or activities for redefinition should build on the conditions of the emerging paradigm and not work against it.

Although each institution is different, we propose eight characteristics which in most higher education organizations would need reexamination and redefinition. Like the key strategies, these characteristics focus attention on some of the critical demands of the emerging paradigm. Stated another way, if an institution redefined this set of characteristics using the five strategies outlined above, we are confident that the result would be a new institutional paradigm that is well positioned for both success today and in the future.

- **High school and college—easing the transition**

In a competitive economic climate where customer-driven service is the corporate standard, it is difficult to excuse an enterprise as large and important as higher education for knowing so little about its customers. IMAGINE a college that attempts to ease the transition to higher education by offering high school students enrollment in appropriate college courses and by forging productive relationships with high school teachers and administrators.

- **Curriculum restructuring - redefining and streamlining**

Currently at most colleges and universities, approximately one-fourth of the curriculum consumes three-fourths of the instructional budget. IMAGINE a curriculum with the direct involvement of employers and alumni in evaluating course content and a curriculum which is problem oriented with required active learning.

- **Class size and educational effectiveness—exploring alternatives**

Today most institutions operate on the unproven educational assumption that smaller classes yield better educational outcomes, while at the same time we ignore the point that class size may be the single most important determinant of instructional cost. IMAGINE an institution that continuously monitors and analyzes the breadth and quality of the curriculum and measures educational outcomes on a cost/benefit basis.

- **The informal curriculum—support that counts**

The majority of program planning effort now goes into formal academic course work, with proportionately little attention paid to providing students with "life coping" skills, career counseling, and post-graduate planning assistance. IMAGINE an effective advising and career development system that supports students from their first day on campus and continues throughout their enrollment, helping them discover their true interests, assess their skills, and chart their post-graduate course.

- **Education and work—building new connections**

Today graduates are losing ground in the employment market because there is little if any meaningful intersection between their undergraduate education and later employment. At the same time, employers increasingly are UNwilling to hire college-educated individuals who lack on-the-job experience. IMAGINE an undergraduate curriculum that encourages and provides opportunities for students to gain essential work experience through co-op arrangements, internships, etc., while it offers employers the free service of screening prospective employees.

- **Administrative services—valuing clients**

Historically, administrative services in colleges and universities have been designed around the convenience of the faculty. The premise underlying many of those services has been that students cannot be trusted to make wise and honest judgments about their education. Both of these assumptions increase cost and limit effectiveness. IMAGINE an institution that gives those served a decision-making voice in resource allocation decisions so that they can determine the activities in which they would like marginal resources invested.

- **Productivity and institutional objectives—creating incentives**

While touting teamwork and strategic planning as essential, most institutions reward individual rather than group performance and few offer incentives that motivate people to strive toward institutional rather than personal objectives. Productivity is one example: employees typically receive no reward for increasing "output" or decreasing costs. IMAGINE a college with a compensation system that tangibly rewards employee contributions to institutional aims and performance. For instance, for each $1 reduction in the cost of education, an employee receives a $10 increase in base salary.

- **Institutional Governance - aligning management with desired outcomes**

Today most institutions are set-up to manage inputs and costs; not surprisingly, we get improved inputs and more costs.[17] IMAGINE an administration, faculty and board of trustees all in agreement on the need to manage outcomes rather than focusing heavily on inputs and promulgating rules.

Certainly today many institutions are working on these dimensions of change. Yet few colleges and universities have adopted a holistic approach that grasps the interrelationships among problems and captures the potential synergy that might lead to a true paradigm shift. Some examples:

- While some institutions are energetically redesigning educational delivery through intensive use of telecommunications, it is unlikely they are simultaneously working to change the reward structure which may inhibit widespread use of such delivery channels.
- While we promote the development of new instructional packages, we overlook the significant impact that empowering "customers" can have on both curriculum restructuring and accountability measures.
- Tenure is viewed as the primary obstacle to institutional flexibility while few proposals are developed that speak directly to changing existing incentive structures[18].

In summary, the forces at work (see step 1) are the broad societal shifts underway which are propelling change. The five key strategies (step 2) have been purposely designed to focus attention on those attributes essential to the emerging paradigm. The characteristics of the educational system (step 3) are those attributes, which if changed, would yield the greatest likelihood of needed institutional redefinition. As institutions work

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[17] Thanks to Peter Hutchinson of the Public Strategies Group (St. Paul, Mn.) for this point.

[18] For a comprehensive proposal laying out an agenda for change aimed at changing incentive structures and reshaping faculty productivity, see Heydinger and Simsek (1992).

through steps 2 and 3, they must then go back and ensure that their proposed changes respond to the force at work which are outlined in step 1.

CONCLUDING THOUGHTS

To recapitulate, this paper began with a theoretical examination of paradigms. The University of Minnesota case study demonstrates the power of metaphor, exemplars, and myths in maintaining and even building new paradigms. We also believe that effective work in designing new paradigms requires a thorough understanding of the current paradigm of populism and its rich history in the 19th and 20th centuries. We believe strongly that this third phase of populism, managed populism, shows all the signs of being the final phase of this current paradigm.

The preeminent position which traditional American higher education occupies within the United States and the world is not nearly as firm as we might think. There is a growing list of industries (e.g., telephone, mechanical watches) and organizations (e.g., General Motors, Harley Davidson, IBM) which were in dominant and seemingly unassailable positions only a few short years ago. Certainly none of these industries and organizations have gone out of business or become extinct. Yet the central position they occupied in which they set the tone, they determined the paradigm, and they controlled the quality of the product or service has drastically eroded if not disappeared. This may not be all bad.

Today there are many people in higher education who, given our industry's long and successful history, are confident that today's anomalies will pass without substantial change. We, too, see this as a real possibility; however, we do not see it as desirable. Traditional higher education will continue to exist. There is little reason to use metaphors of "extinction" or "dinosaurs." However, like the industries and corporations cited above, traditional higher education could easily lose its central position if it does not respond and respond dynamically.

Two examples with different underlying causes are instructive. Throughout the first seventy years of this century, the U.S. Post Office was the "dominant paradigm" in package delivery. An outside provider (i.e., Federal Express) developed a new organziational paradigm and the industry was revolutionized. The US Post Office continues to be a large provider of package shipping services; however, the industry standard is set by others, and today the postal service has a fraction of the market. In a second example, no longer are municipal, state, and federal law enforcement officials the dominant provider of security services. Other needs developed, and the police could not or did not respond. Thus today the majority of security services are provided by private services and technologies.

In both examples, we can easily argue that this paradigm shift improved the service available to the ultimate client. However, if traditional American higher education organizations are confident that they have the best understanding of quality, the best understanding of the needs of society, and the most essential experience at deliverying this service, then they must respond to the challenges facing higher education. This is not to imply that U.S. higher education does a poor job. To the contrary, American higher education is the envy of the world, and rightfully so. Yet today there is growing recognition of the real and substantial room for improvement. And the shifts at work in our larger society are increasingly going to demand increased performance from higher education.

Our analysis convinces us that the next two decades will be witness to some of the most significant changes in the history of higher education. The best way to ensure an effective, viable higher education system in the next century is if higher education leaders step forward and work aggressively to shape this change, rather than let the inevitable winds of change work on their own. If we don't, the paradigm periods of crisis and selection may result in another "product class" with entirely different providers defining the dominant paradigm for American higher education. And, those writing about higher in the

21st century education will note that the current, dominant paradigm was developed by an emergent group of new organizations.

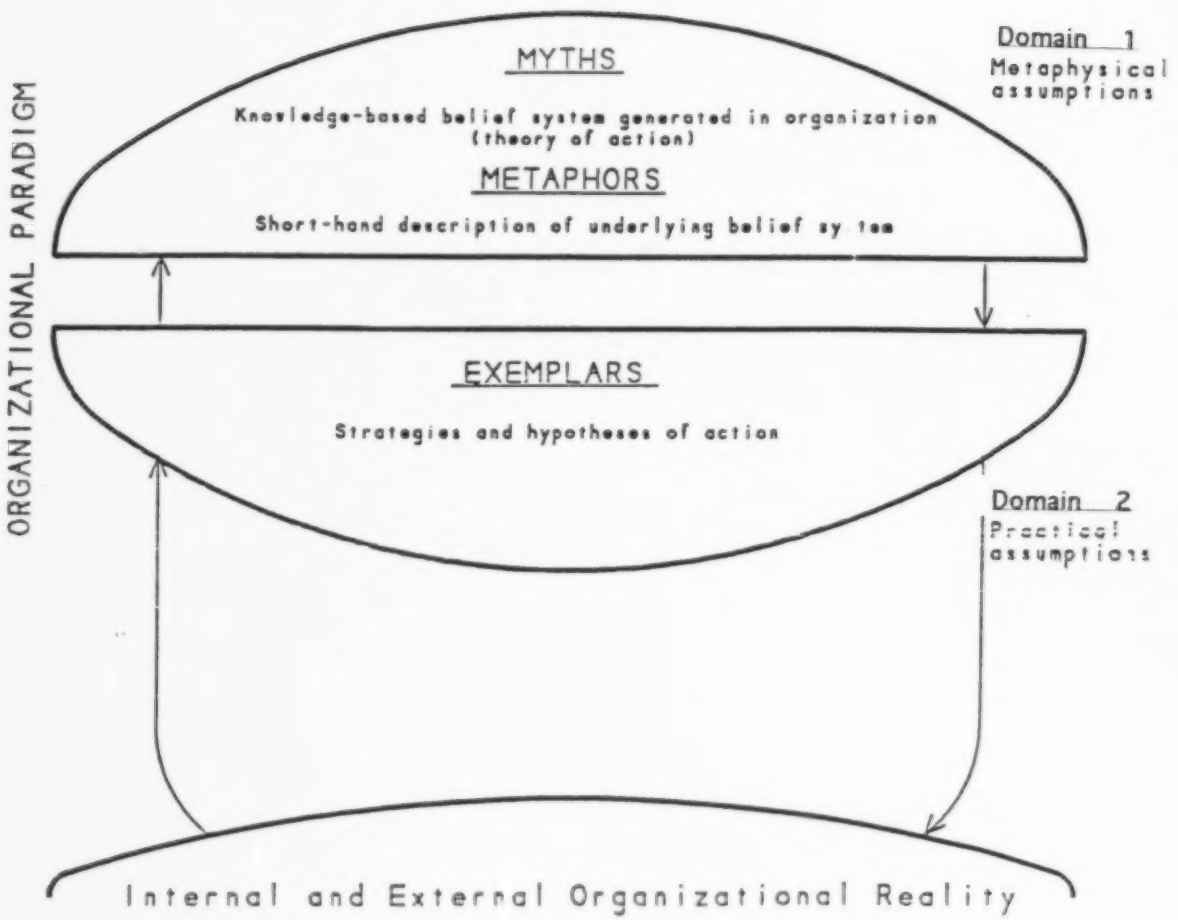

Figure 1: Organization as Paradigm

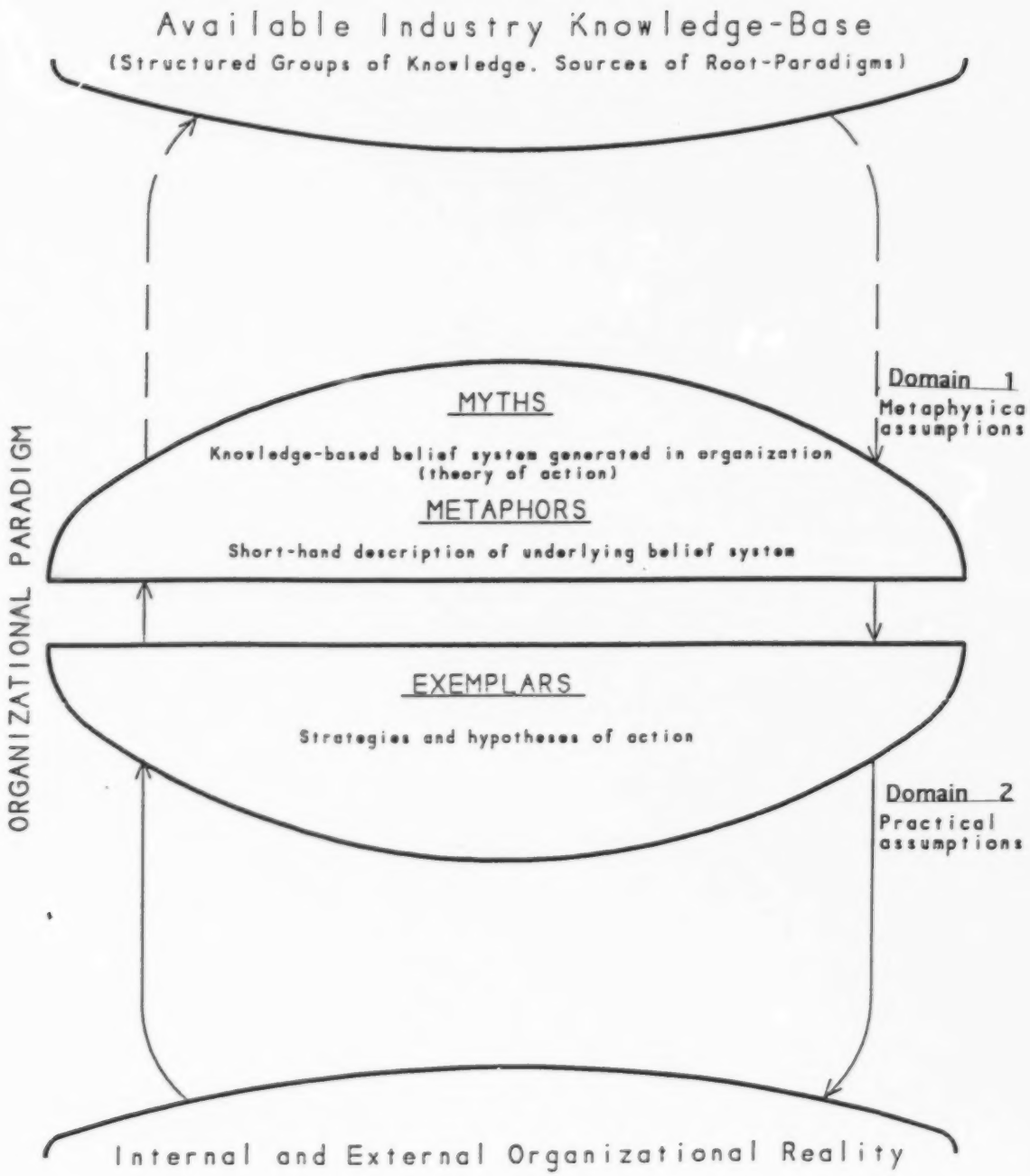

Figure 2: Organization as Paradigm: An Interpretive Process

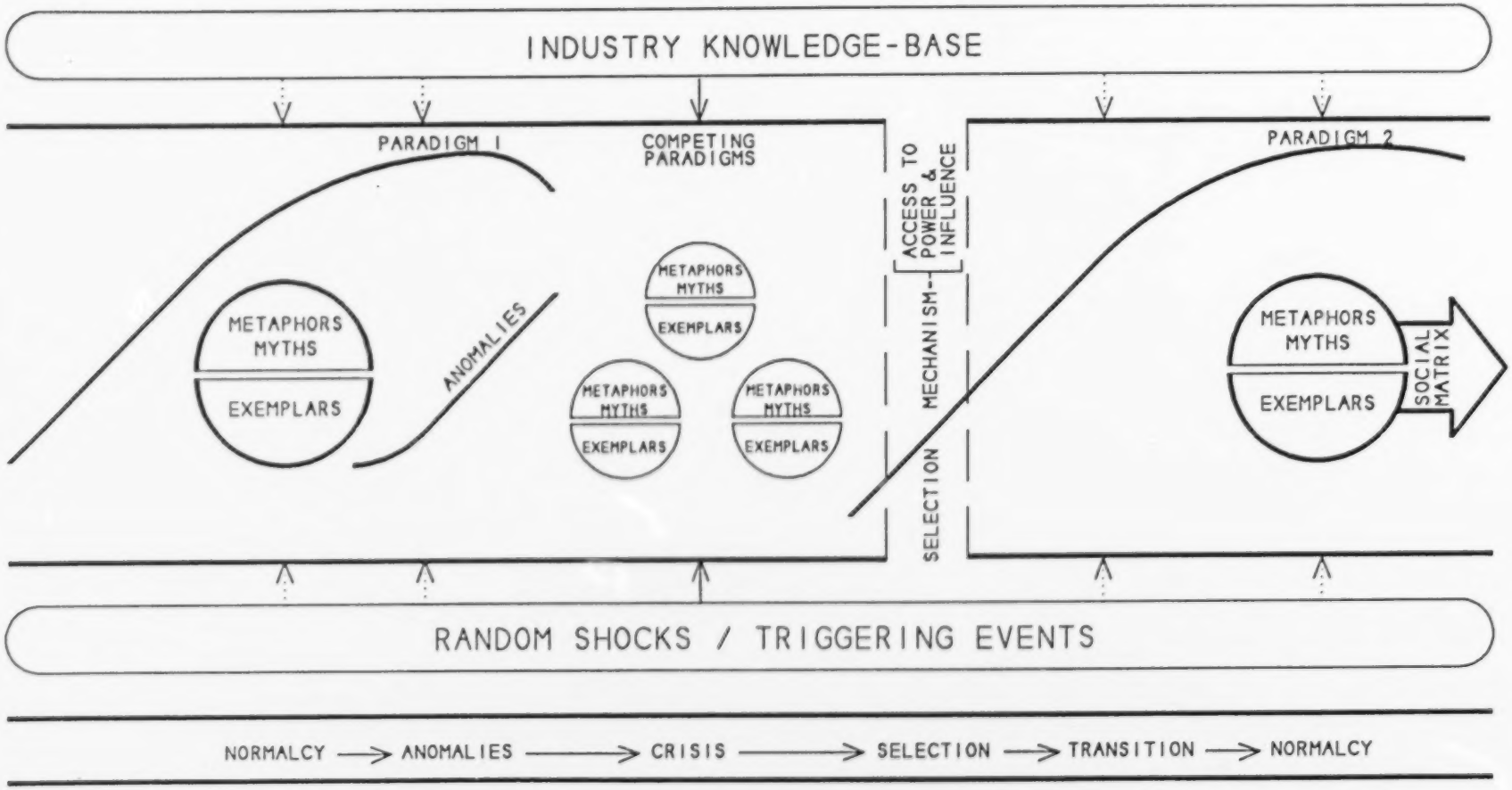

Figure 3: Organizational Change as Paradigm Shift

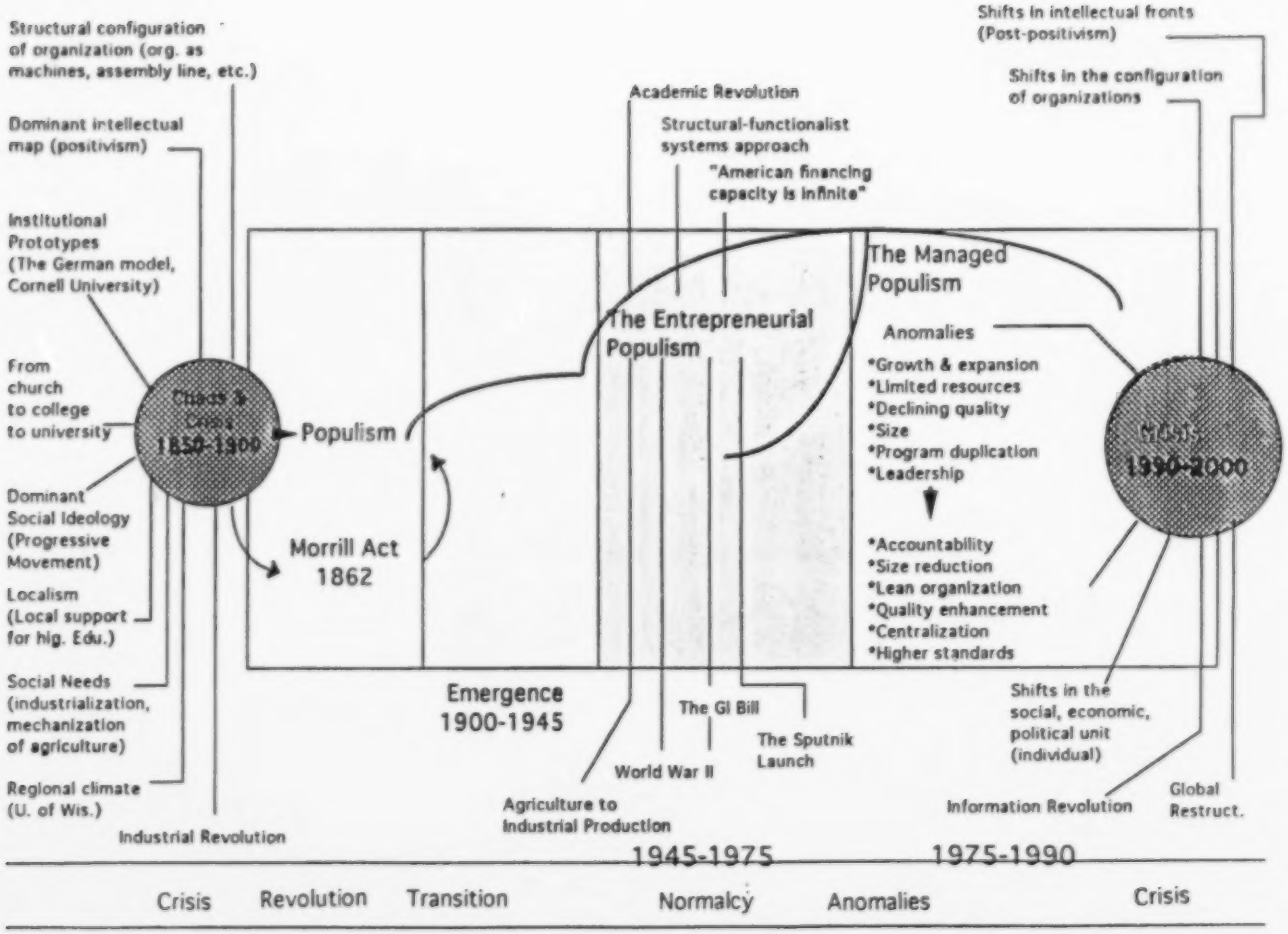

Figure 4: The evolution of the populist paradigm in American higher education

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REFERENCES

Ammentorp W. and M. Johnson (1989a). ***"The Definition and Diffusion of Professional Paradigms,"*** Paper presented at the annual meeting of American Educational Research Association, San Francisco, CA.

Ammentorp, W. and M. Johnson (1989b). ***"Paradigm Consensus and the Organization of Scientific Literature,"*** Paper presented at the annual meeting of American Educational Research Association, San Francisco, CA.

Alpert, Daniel (1985), "Performance and Paralysis: The Organizational Context of the American Research University," ***Journal of Higher Education***, Vol. 56, No. 3, pp. 241-81.

Altbach, Philip G. (1981), "Stark Realities: The Academic Profession in the 1980s," in Philip G. Altbach and Robert O. Berdahl (eds.), ***Higher Education in American Society***, Buffalo, NY: Prometheus Books.

Baldwin, Roger G. (1985). ***"Correlates of the Vital Academic Careers: What Do We Know? What Do We Need to Know?"***, Paper presented at the annual meeting of the Association for the Study of Higher Education, Chicago, IL.

Bloom, Allan (1987), ***The Closing of the American Mind***, New York, NY: Simon and Schuster.

Bok, Derek (1990). ***Universities and the Future of America***, Duke University Press.

Boyer, Ernest L. (1990), **Scholarship Reconsidered: Priorities of the Professoriate, The Carnegie Foundation for the Advancement of Teaching**, Princeton, NJ: Princeton University Press.

Brown, Richard H. (1978), "Bureaucracy As Praxis: Toward a Political Phenomenology of Formal Organizations," ***Administrative Science Quarterly,*** 23: 365-382.

Burns, T. and G.M. Stalker (1961) ***The Management of Innovation,*** London: Tavistock.

Campbell, J. and B. Moyers (1988). ***The Power of Myth,*** New York, NY: Doubleday

Carnegie Foundation for the Advancement of Teaching (1975), **More Than Survival: Prospects for Higher Education in a Period of Uncertainty**, San Francisco, CA: Jossey-Bass.

Clark, Burton (1981), "The Insulated Americans: Five Lessona From Abroad," in Philip G. Altbach and Robert O. Berdahl (eds.), ***Higher Education in American Society***, Buffalo, NY: Prometheus Books.

Combs, A. (1977). ***Myths in Education,*** Boston, MA: Allyn & Bacon.

Cowley, W.H. and Don Williams (1991), ***International and Historical Roots of American Higher Education***, New York, NY: Garland Publishing, Inc.

Dethomasis, L., W. Ammentorp and M. Fox (1991). ***The Transformal Organization,*** Winona, MN: Metanoia Press.

Dolence, M. and D. Norris (1992). Presentation at the annual meeting of the Society for College and University Planning, Minneapolis, MN.

Duryea, E.D. (1981), "The University and the State: A Historical Overview," in Philip G. Altbach and Robert O. Berdahl (eds.), ***Higher Education in American Society***, Buffalo, NY: Prometheus Books.

Freeman, J. (1982). "Organizational Life Cycles and Natural Selection Process", in B. Staw and L.L. Cummings (Eds.), ***Research in Organizational Behavior*** (Vol. 4). Greenwich, CT: JAI Press.

Greiner, E.L. (1972). "Evolution and Revolution as Organizations Grow," ***Harvard Business Review,*** July-August.

Griffiths, D.E., A.W. Hart and B.G. Blair (1991). "Still Another Approach to Administration: Chaos Theory," ***Educational Administration Quarterly,*** Vol. XXVII, No. 3.

Halberstam, David (1991). **The Next Century**, New York, NY: Morrow.

Hannan, M. & J.H. Freeman (1977). "The Population Ecology of Organizations", ***American Journal of Sociology,*** 32: 929-64.

Hedberg, B (1981). "How Organizations Learn and Unlearn," in Paul C. Nystrom and William H. Starbuck (eds), ***Handbook of Organizational Design,*** Vol 1, New York: Oxford University Press.

Hedberg, B. and S.A. Jonsson (1977). "Strategy Formulation as a Discontinuous Process," ***International Studies of Management and Organization,*** 7: 89-109.

Henry, David D. (1975) **Challenges Past, Challenges Present: An Analysis of American Higher Education Since 1930** (Carnegie Council Series on Policy Studies in Higher Education), San Francisco, CA: Jossey-Bass.

Heydinger, R.B. and Hasan Simsek (1992). **An Agenda For Reshaping Faculty Productivity**, State Higher Education Executive Officers (SHEEO), Denver, CO.

Imershein, Allen W. (1977a). "Organizational Change As Paradigm Shifts," ***The Sociological Quarterly***, 18: 33-43.

_____(1977b). "The Epistemological Bases of Social Order: Toward Ethnoparadigm Analysis," in David R. Heise (ed), ***Sociological Methodology***, San Francisco: Jossey-Bass Publishers.

Jencks, Christopher and David Reisman (1968), ***The Academic Revolution***, Garden City, NY: Doubleday.

Jonsson, Sten A. and Rolf A. Lundin (1977). "Myths and Wishful Thinking As Management Tools," in Paul C. Nystrom and William H. Starbuck (eds),

Prescriptive Models of Organizations, Vol. 5, Amsterdam: Noth-Holland Publishing Company.

Kerr, K. (1990). "Higher Education Cannot Escape History: The 1990s," in L.W. Jones and A. Nowotny, ***New Directions For Higher Education***, No. 70.

Kerr, Clark and Marian Gade (1981), "Current and Emerging Issues Facing American Higher Education," in Philip G. Altbach and Robert O. Berdahl (eds.), ***Higher Education in American Society***, Buffalo, NY: Prometheus Books.

Kuhn, Thomas S. (1970). ***The Structure of Scientific Revolutions***, (2nd. ed.), Chicago, IL: University of Chicago Press.

Lakoff, G. and M. Johnson (1982). ***Metaphors We Live By***, Chicago, IL: University of Chicago Press.

Lawrence, P.R. and J.W. Lorsch (1967) ***Organization and Environment***, Cambridge, MA: Harvard Graduate School of Business Administration.

Levy, Amir (1986). "Second-Order Planned Change: Definition and Conceptualization," ***Organizational Dynamics***, Vol. 15: 5-20.

Lincoln, Yvonna S. (1990), "Trouble in the Land: The Paradigm Revolution in the Academic Disciplines," in John C. Smart (ed.), **Higher Education: Handbook of Theory and Research**, Vol. 6, New York, NY: Agathon Press.

Louis, K.S. and Hasan Simsek (1991), "**Paradigm Shifts and Organizational Learning: Some Theoretical Lessons for Restructuring Schools**," Paper presented at the annual meeting of the University Council for Educational Administration, Baltimore, MD.

Mayhew, L.B., P.J. Ford and D.L. Hubbard (1990), ***The Quest For Quality: The Challenge For Undergraduate Education in the 1990s***, San Francisco, CA: Jossey-Bass.

Miles, R.H. (1980) ***Macro Organizational Behavior***, Santa Monica, CA: Goodyear.

Miller, Danny and Peter H. Friesen (1980). "Momentum and Revolution in Organizational Adaptation," ***Academy of Management Journal***, 23: 591-614.

Millett, John (1981), "State Government," in Philip G. Altbach and Robert O. Berdahl (eds.), ***Higher Education in American Society***, Buffalo, NY: Prometheus Books.

Mingle, James R. (1992). ***"Public Policy and Faculty Teaching Loads,"*** Paper presented at the annual meeting of the American Association of Higher Education, Chicago, IL.

Mohrman, Allan M., Jr. and Edward E. Lawler III (1985). "The Diffusion of QWL As a Paradigm Shift," in Warren G. Bennis, Kenneth D. Benne and Robert Chin (eds), ***The Planning of Change*** (4th ed.), New York: Holt, Rinehart and Winston.

Morgan, Gareth (1980). "

Morgan, Gareth (1986). ***Images of Organization***, Newbury Park, CA: Sage.

Naisbitt, J. and P. Aburdene (1985) **Re-inventing the Corporation**, New York, NY: Warner Books.

Naisbitt, J. and P. Aburdene (1990) **Megatrends 2000: Ten New Directions for the 1990s**, New York, NY: Morrow.

Peters, Tom (1987), **Thriving on Chaos: Handbook for a Management Revolution**, New York, NY: Harper & Row.

Peters, Thomas J. and Robert H. Waterman (1982), ***In Search of Excellence: Lessons from America's Best-Run Companies***, New York: Warner Books.

Pfeffer, J. (1981). "Management As Symbolic Action: The Creation and Maintenance of Organizational Paradigms," in L. L. Cummins and Barry M. Staw (eds), ***Research in Organizational Behavior***, Vol. 3, Connecticut: JAI Press Inc.

_____(1982). ***Organizations and Organization Theory***, Boston: Pitnam.

Pfeffer, J. and G.R. Salancik (1978). ***The External Control of Organizations: A Resource Dependence Perspective***, New York, NY: Harper & Row.

Prigogine, I. and I. Stengers (1984). ***Order Out of Chaos***, New York, NY: Random House.

Reich, Robert B. (1991). **Work of Nations: Preparing Ourselves For 21st Century Capitalism**, New York, NY: A.A. Knopf.

Sackmann, Sonja (1989). "The Role of Metaphors in Organization Transformation," ***Human Relations***, 42: 463-485.

Sheldon, Alan (1980). "Organizational Paradigms: A Theory of Organizational Change," ***Organizational Dynamics***, (Winter): 61-80.

Simsek, Hasan and Karen S. Louis (1991), **"Organizational Change As A Paradigm Shift: Analysis of Change Process in a Large, Public University,"** Paper presented at the annual meeting of the University Council for Educational Administration, Baltimore, MD.

Simsek, Hasan (1992), **"Organizational Change as a Paradigm Shift: Analysis of Organizational Change Process in a Large, Public University by Using a Paradigm-based Change Model,"** Unpublished Doctoral Dissertation, Minneapolis, MN: University of Minnesota.

Sterman, John D. (1985). "The Growth of Knowledge: Testing a Theory of Scientific Revolutions With a Formal Model," ***Technological Forecasting and Social Change***, 28: 93-122.

Toffler, A. (1991). ***Powershift: Knowledge, Wealth and Violence at the Edge of the 21st Century***, New York, NY: Bantam.

Tushman, Michael L. and Elaine Romanelli (1985). "Organizational Evolution: A Metamorphosis Model of Convergence and Reorientation," ***Research in Organizational Behavior***, 7: 171-222.

Westerlund, Gunnar and Sven-Erik Sjostrand (1979). ***Organizational Myths***, New York: Harper & Row, Publishers.

Westmeyer, Paul (1985), ***A History of American University***, Springfield, IL: Charles C. Thomas Publisher

Woodward, J. (1965) ***Industrial Organization: Theory and Practice***, London: Oxford University Press.

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